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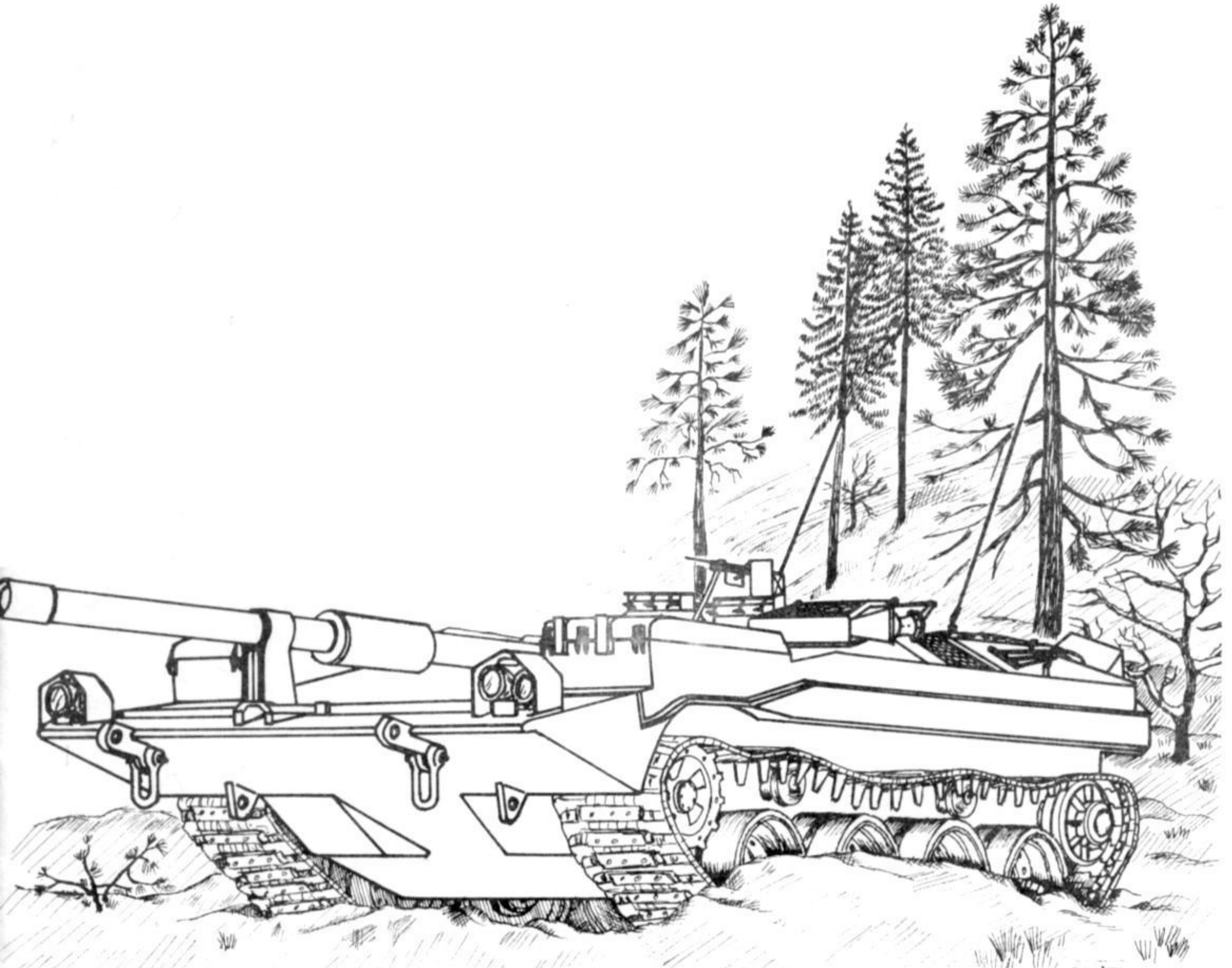

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Announcing......

With this issue the AFV-G2 has started on a program of improvements in the appearance and quality of its format. The first step of this program has been the adoption of the standard, folded copy binding that you see here; this will be followed by the use of new glossy paper, and improvements to our photographic process. When fully implemented these changes should increase the value of the growing number of photographs appearing in the magazine, and generally enhance the appearance of the publication. However, with the cost of the new equipment required for this and the anticipated increase in postal rates and paper costs, it will be necessary to increase the cover price of the magazine beginning with Vol. III, No. 1 (May 1971). As of that time the new price will be 60¢ per copy and subscriptions will be raised to $6.00 per year. In the intervening months, however we will accept subscriptions at the old rate of $5.00 per year; and those of our present subscribers who wish to do so may renew their subscriptions early and take advantage of the lower rate. Such subscriptions and renewals must reach us by June 1, 1971; so SUBSCRIBE NOW and save the extra $1.00 per year.

The Editors

Vol. 2
No. 11

AFV-G2

Table of Contents

PAGE	ARTICLE TITLE	AUTHOR
4	Color 'n' Camouflage: British Mk. VI Light	The Staff
6	Wargame Review: Building a Sandtable	E. Gary Gygax
8	Heinz Guderian and the Drive on Moscow (Part I)	Norb Meyer
10	Product Review: Armor in Action Prints	Steve Gifford
11	Wargame Conversion: The Sherman in Detail	Jim Garrison
12	Armor G-2	J. C. Johns
13	Sweden's Tank "S"	Carl Weaver
16	"S" Tank Five-view drawings	Courtesy of Bofors
18	Seek, Strike, and Destroy (Part II : The Weapons	Lonnie L. Gill
20	Product Review: Superior's 5cm Anti-tank Gun	William Rupprecht
21	Baron's Corner: Hinges that Work	Norb Meyer
22	Scratch-Built: British Mk. VI B in 1/76th scale	Bruce Weigle
24	The M4A3E2 Assault Sherman (Part II)	Jim Garrison
26	Panzer Aufklärungs Kompanie (Typ C)	Jim Steuard
27	Organization Chart - Aufklärungs Kompanie	Jim Steuard
28	The Autoblindas	Mario Naples
29	Autoblinda 41 Four-view Drawings	Steve Cobb
30	Modellers Page	Carl Weaver

COVER: The appearance of the new "S" Tank in service with the Swedish military marks a turning point in the design of Armored Vehicles. This month's cover is a pen and ink rendering of this radically different tank by Steve Cobb of our staff.

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Ⓒ Baron Publishing Company, 1971

The AFV-G2 is a magazine, published monthly, for Armor Enthusiasts, with the purpose of gathering and disseminating information about Armored Fighting Vehicles and their employment; to provide an opportunity for persons seriously interested in the History of Armored Fighting Vehicles, in the modeling of these AFV's and associated equipment, and in the playing of military Wargames utilizing miniature AFV's, to share ideas and items of mutual interest, and to promote an interest and awareness in the subject of AFV's.

The AFV-G2 is available, with an individual issue price of $.50, from local Hobby Shops, Magazine and Book Dealers. Subscriptions are available for the sum of $5.00 yearly. Checks should be made payable to the "AFV-G2" or to Baron Publishing Company, and forwarded to the Circulation Director: Mr. John Yonos, Post Office Box 293, La Puente, California 91747. In the United Kingdom contact Greening, Knoll Cottage, Knoll Road, Dorking, Surrey.

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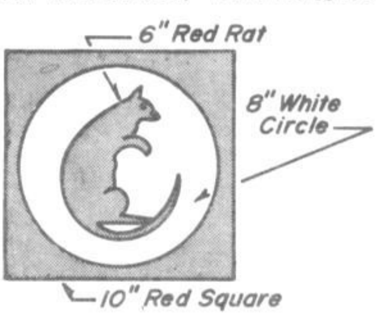
Color 'n' Camouflage

British Mk. VI b Light Tank, Egypt 1940

by The Staff

During the Spring of 1940, light tanks of the British 7th Armoured Division patrolled the Egyptian border with the "neutral" Italian province of Libya. These were all that stood between the 10th Italian Army and the vital crossroads of the Suez Canal. Shown here is one of those light tanks - a Mark VI b of the 1st Battalion, Royal Tank Regiment, which was then part of the 4th Armoured Brigade of the "Desert Rats". This particular vehicle was involved in the frontier patrols prior to Italy's Declaration of War in June 1940; and the markings indicate that it was in operation during March and April of that year.



The Mk. VI was painted with the standard three color camouflage pattern then in use by the 7th Armoured. This consisted of a layered effect produced by bands of Desert Yellow (see "AFV-G2"; Vol. II, No. 2 for paint chip), Mediterraenean Light Blue, and Dark Green (Vol. I, No. 12) separated by sharp angular lines which break them into geometric patterns of contrasting colors.

Identification markings were painted on the front sand shields, turret sides, and hull rear. On the left front sand shield appeared the red "Jerboa" of the 7th Armoured Division formation sign. Opposite this on the front of the right shield was the Unit Serial Number - a white "24" on a 10 inch red square. This number indicated that the vehicle belonged to the senior battalion (1st RTR) of the senior armoured brigade (4th Armoured Brigade) of the division, and corresponded to the unit's position on the order of battle. The relative seniority of the various units within the division was based on the date of the formation of the particular unit. As a general rule the number of the unit indicates its seniority (1st RTR is senior to 6th RTR); however, this is not always the case. The older cavalry regiments, formed in the eighteenth and nineteenth centuries, are senior to the Johnny-come-lately Royal Tank Regiment battalions. Why all this discussion of seniority? It is simply this: In April 1940, the 1st Royal Tanks were transfered to the 7th Armoured Brigade and the Unit Serial Number of our Mk. VI b changed from a white "24" on a red Square to a white "30" on a green square - all other markings remaining the same. The latter is correct for the 1st RTR at the time of Wavell's offensive against the Italians in December 1940

MEDITERRANEAN LIGHT BLUE

7 pts	Floquil RR 51, Light Blue
5 pts	Floquil RR 11, Reefer White
2 pts	Floquil RR 20, Caboose Red
1 pt	Floquil RR 17, Weathered Black

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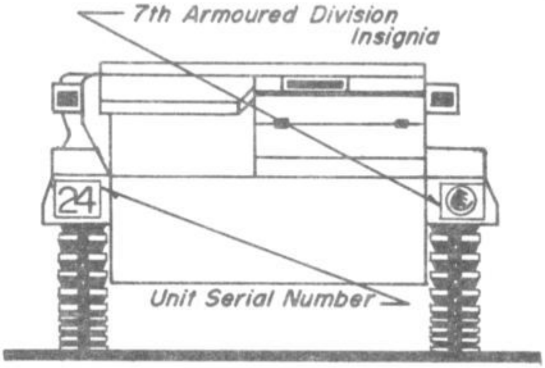
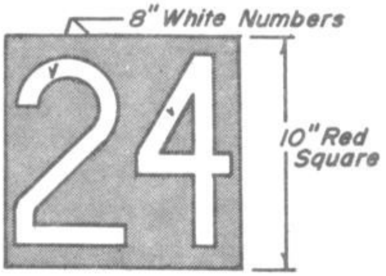


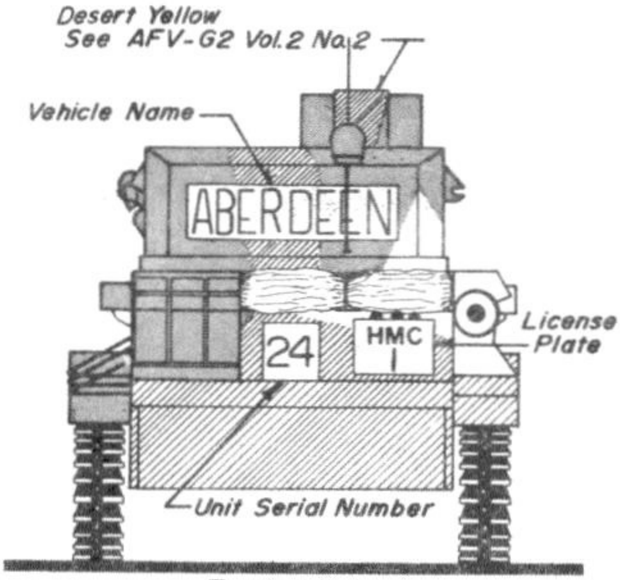
Front View

On this particular vehicle there was no Census Number ("T" Number) visible; however, on the right rear hull appeared a registration plate with the letters "HMC" over a "1". Centered on the rear of the hull was the Unit Serial Number again, and across the rear of the turret the individual vehicle's name appeared in 8 inch high letters on a red rectangle. "ABERDEEN" was this vehicle's name and the other two tanks in the troop were "ALSACE" and "ANGLESBY". Normally this would indicate that they were from "A" Squadron; however, in this case the red circle on the turret side identifies "C" Squadron vehicles - a discrepancy accounted for by a tradition going back to the days of World War I when all 1st RTR vehicles were assigned names begining

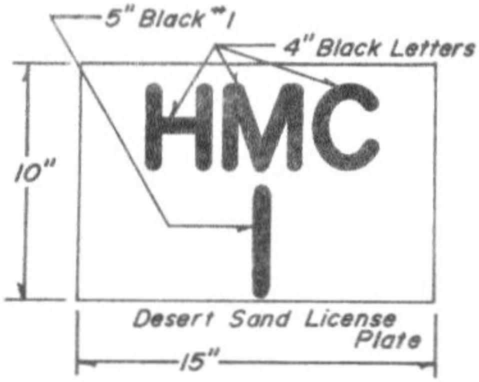


with the letter "A". The color of the squadron marking was also keyed to the unit's relative seniority-red for the senior battalion, yellow for the middle, and blue for the junior.

The 1st Battalion, Royal Tank Regiment arrived in Egypt in 1938 with its Mk. VI b light tanks and was assigned to Major General Hobart's Mobile Division (Egypt) as part of the Heavy Armoured Brigade (later 4th Armoured Brigade). Theoretically the Battalion should have been equipped with 26 light cruiser (A-9), 15 heavy cruiser (A-10), and 8 close support (A-9CS) tanks; but 20 years of neglect had left the British armoured force desparately short of suitable equipment, and 1st RTR had to make do with their old Mk. VI's. Indeed, the entire division was understrength, having only four armoured battalions (regiments) instead of the usual six.

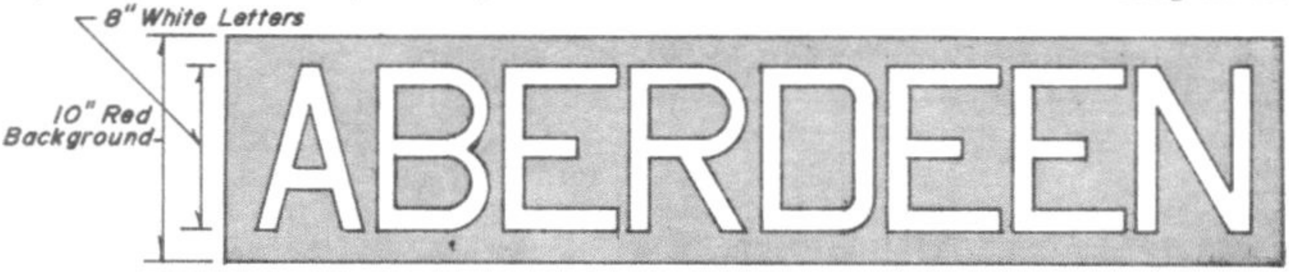


Rear View



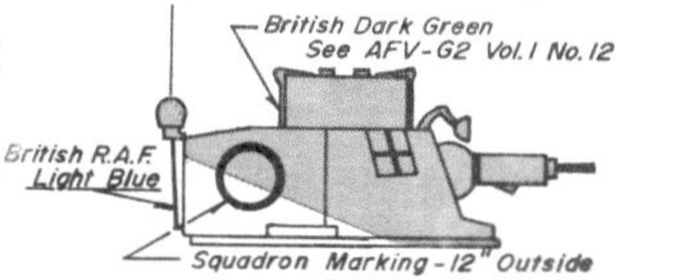
In April 1940, the Division was reorganized and the units shifted between the bridges. 1st RTR was transferred to the 7th Armoured Brigade(which required the change in markings mentioned above). The Division was still short two tank battalions; however, these arrived from England on October and took part in Wavell's offensive against Marshal Graziani's 10th Army.

On December 9, 1940, the British Western Desert Force including 7th Armoured Division, swept down upon the Italian base camps South of Sidi Barrani, overrunning them and driving the surviving Italians backalongthe Coast Road. The impregnable fortress of Bardia fell, followed by Tobruk on January 22nd and Mekili a few days later. Then the mad, headlong rush across the desert to cut the road from Benghazi and cut off the last remnants of the once proud 10th Army. By the 7th of February it was all over. In 2 months the British had destroyed or captured over 400 tanks 800 guns and 130,000 Italian prisoners (not to mention a prodigeous quantity of Chanti and a covey of attractive companions provided for the Italian staff officers, the latter found in the unlikely custody of a chaplin.)



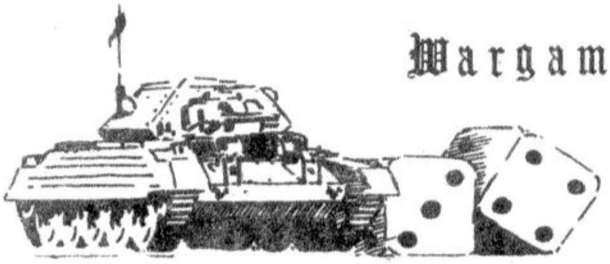
The campaign concluded, 1st RTR turned over its remaining Mk. VI b's to the 3rd Hussars and began the long trek back to the Nile Delta to rest and re-equip.

Note: for details on building a Mk. VI b, see page 22.... Ed.


British Dark Green
See AFV-G2 Vol. I No. 12
British R.A.F. Light Blue
Squadron Marking - 12" Outside Circle 10" Inside Circle - Color is Red

Turret Side

Wargame Review



Building a Sand Table

by E. Gary Gygax

The construction of a basement or garage sand table for wargaming is not really a difficult or particularly expensive undertaking. However, there are pitfalls which must be avoided. When two of us slapped our first table together one afternoon, using scrap lumber and rusty nails, we seriously underestimated the strain that it would have to withstand. Dry sand is heavy, but when several gallons of water are added to the five to eight cubic feet of the stuff needed, it becomes a burden indeed. Here are some suggestions to serve as a guide for your own project.

Table size: Of course the amount of space you have available will dictate the table size, but there are other considerations as well. The width should not be less than five feet and anything over six will cause severe back strain when the average person has to reach to the center to move equipment. The length of the table is more flexible, but to restrict it to less than eight feet will severely limit the size of the battles staged upon it, and will make modern play almost impossible in HO scale. Twelve feet of length is usually all that is necessary for games for most historical periods. The plans here are for a table six foot by ten foot but can be easily adapted for longer boards.

Materials: First you will need 83 fee of 2x4's, 2 sections of 3/4 inch plywood 5 feet by 6 feet, and 50 feet of 1x2's. In addition plan on about 18 angle irons, 24 six inch spikes, assorted nails, wood putty, and a heavy guage plastic sheet of the same dimensions as the table top.

The Frame: Take two 10 foot lengths of 2x4, four sections of 2x4 cut to a length of 5 feet 8 inches for the ends and center braces, and three pieces 37 and 1/3 inches long. Nail the sides and end pieces together so that a rectangle 10 foot by 6 foot by 4 inches high is resting on the floor. Before the interior braces are nailed in, be sure to check to be certain the rectangle is level and has square corners. Then complete the frame by securely nailing in the other two center braces and the 37 1/3 inch sections. The finished frame is shown in Figure #1.

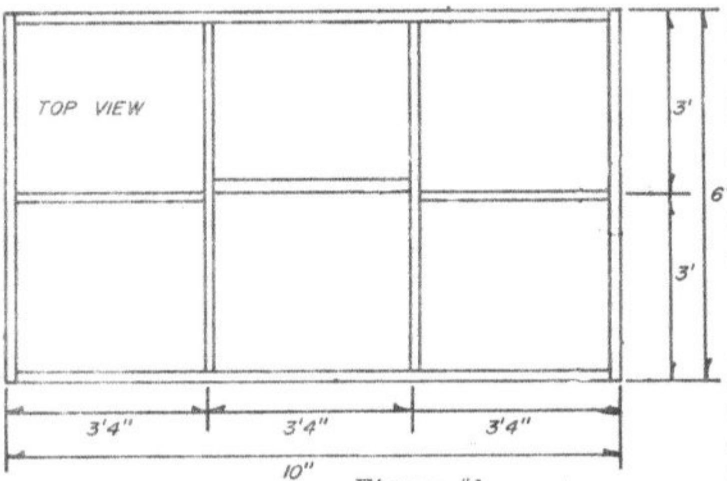


Figure #1

Legs and Braces: This is tricky, for the legs must be well fastened or they will spread out and the table collapse. I suggest that one end of the frame be placed on a pair of saw horses (or some similar prop) while you use the 6 inch spikes to drive down through the opposite end of the frame into the legs. You can then use the smaller nails - driving them at a 45 degree angle - to make sure the legs will stay in place. Adding angle irons is also a good idea. After you have repeated this process at all four corners, add the side, end, and interior legs in the same way. The legs are 30 inch long 2x4's, and should be assembled parallel to the length of the table on the center line, and parallel to the width on the sides. This gives maximum support and helps to keep the frame together also. Twelve legs are required, one at every place where two or more sections of the frame meet. Braces are constructed of 2 foot lengths of 1x2 with the corners trimmed at 45 degree angles (see Figure #2). Nail two braces to each corner leg as shown. Don't worry if the legs are not quite even, as the weight of the fill will take care of minor discrepancies. Figures #3 and #4 illustrate frame with legs attached and braced.

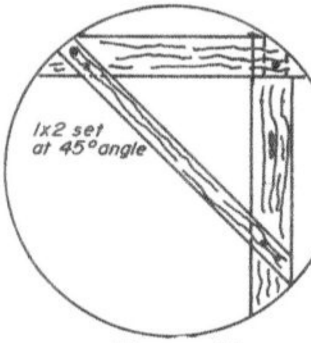
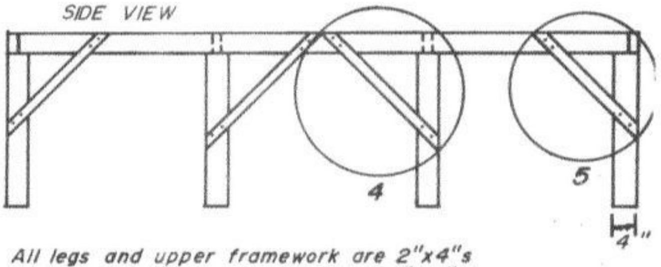


Figure #2

Top: Now nail the two sections of plywood to the top of the frame. With luck, everything should come out square and even. Next, fill in the nail holes, knot holes, cracks and the like with wood putty and spread the plastic over the whole mess. You are now ready to add the raised side panels which will retain the sand fill.....stay with it! At each end of the table place a 6 foot section of 1x2, with the 1 inch side resting on the top. Nail the end pieces down, putting a nail every 6 inches. Then lay down the 9 foot 10 inch side pieces and secure them the same way. This secures them to the table top and holds the plastic in place at the same time. The latter, by the way, will assure that the moisture from the sand will not leak through to the plywood underneath (if you are ambitious you can also paint the plywood before covering it with plastic - for you belt and suspenders types.



All legs and upper framework are 2"x4"s
All leg braces and upper edge are 1"x 2"s

Figure #3

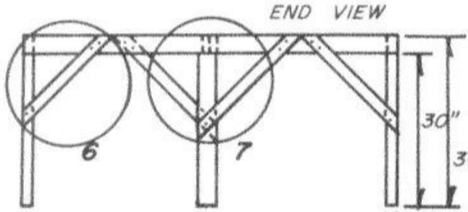


Figure #4

Acquiring sand may prove to be a problem for you. If there is no source of free sand nearby, and you are too honest to midnight requisition it from the local beach, try buying it from a contractor. Seven cubic feet will cover a 6' x 10' table to a depth of nearby 1 3/4". There is a hill of natural sand in Lake Geneva, and as it is both very fine and free, we have no problem. If your sand is too coarse, just sift it through a windown screen. Small amounts of earth in the sand do not detract from it; in fact, the dirt will help the sand retain moisture and make it easier to shape. Once you have the fill, dump in the middle of the table one bucket at a time, spreading it out evenly until the desired depth of sand is obtained.

Now relax, you're finished with the work and have a genuine sand table on which to design fantastically realistic terrain for your miniture warfare. Have fun!

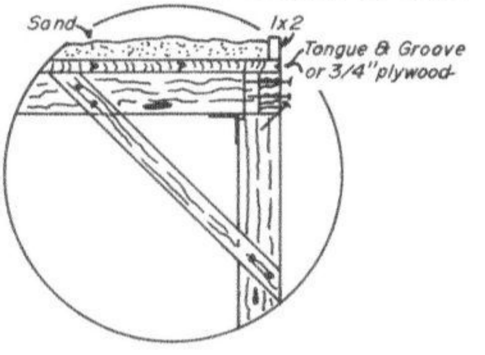


Figure #5

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PROFILE

The Man and The Campaign

Heinz Guderian

and The Drive For Moscow

PART I

by Norb Meyer

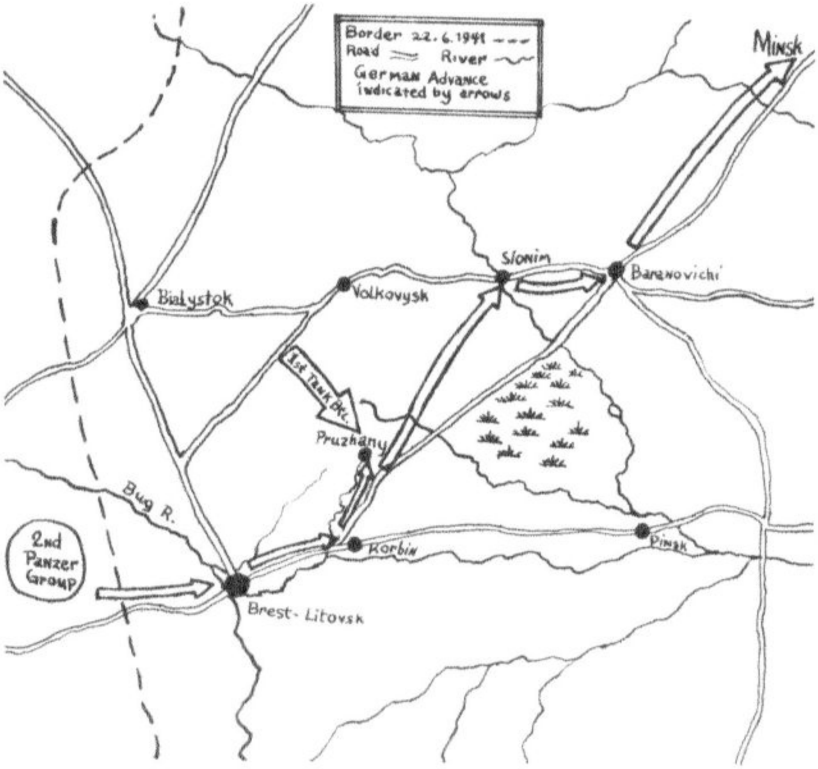
It was a warm summer evening in late June. Three million men, 600,000 vehicles, 750,000 horses, 7184 guns and 3580 armoured vehicles sat quietly waiting. For the last two months they had been arriving, but only at night lest they be discovered. At night, only muffled movements of men and tanks stirred the air. During the day strict silence, no movement, and least of all radio chatter. Now they sat waiting, but waiting for what?

At 22:00 hours on the evening of 21st June, 1941 the companies and battalions were ordered to fall in; the Order of the Day was read. It began with the words "Soldiers of the Eastern Front!" Now they all knew, from the Baltic to the Black Sea. The mighty German Army that had crushed Poland and France was going to crush Russia in eight weeks! Deutchland Uber Alles!

Was Russia really taken by surprise? Was it possible to amass such a force and not be detected? There had been numerous German commando raids since 1939 not to mention more than 500 violations of Soviet air space, 152 of which had occured since January 1941. In addition to this, the numerous Soviet frontier troops often reported the sounds of "many tank engines" coming from the German side of the border. How then was Russia caught so unprepared? The very troops that were to be the defenses of Mother Russia had been forbidden by Stalin to take any action against the Germans; Stalin did not want to give Hitler any excuses to attack. The great purge of 1938 had taken its toll in some of the best of the Russian Officers, and the new weapons had not found their way to the front as yet. Add to this the fact that the Officers in charge of the Army units did not have total command of the men, but had to rely on the Political Commissar to be in agreement on every step that had to be taken. The Russian Army suffered from the same problem that the French had to deal with - instant decisions could not be made. When you are dealing with an enemy that thrusts one hundred miles deep in to your territory within the first three days of the war, you cannot afford to take time to reach a decision! So it was on the very first way of War!

The Russians did posess quantity, though. General Guderian, in his book "Actung Panzer", reported that the Soviet Union possessed in 1938, as many as 10,000 tanks. In actual fact, Russia had over 17,000 tanks; and, at the outbreak of hostilities over 7000 of these were in the forward lines. Since the Russians possessed such a superiority, why were they defeated? In reality, most of those 17,000 tanks were of the light BT-5, BT-7 and T-26 types; and, of the total number, only twenty-seven percent were in working condition. Add to this the fact that the KV's and T-34/76's, more than a match for the German tanks, were not in full scale production! In 1939 none of these had been produced; even in 1940, only 243 KV's and 115 T34/76's came off the assembly lines. And in 1941, that figure had only increased to 393 KV's and 1,110 T-34/76's. Further, in 1939 the Soviet Armored formations were ordered split up and distributed among the armies. The Purge of 1938 had a two fold effect.

For the Campaign to come, the German Army had been split into three groups: Army Group North, Army Group Center and Army Group South. The main weight of the attack was to fall in the center. The German High Command decided to give command to the best of their Generals for the guaranteed success of the Blitzkrieg. With Rommel tied up in North Africa - and doing quite well at it - that left only two good generals. Both of these men were put into the center group. The very same man who had been so instrumental in the fall of France was to spur the High Command to better things! Col. General Heinz Guderian. To insure that he was able to carry out his plans, Gen. Guderian was given command of the best, they were as follows:



XLVII PANZER KORPS: 17th Panzer Division, 18th Panzer Division, and 29th (Motorized) Division.

XLVI PANZER KORPS: 10th Panzer Division and SS Division "Das Reich".

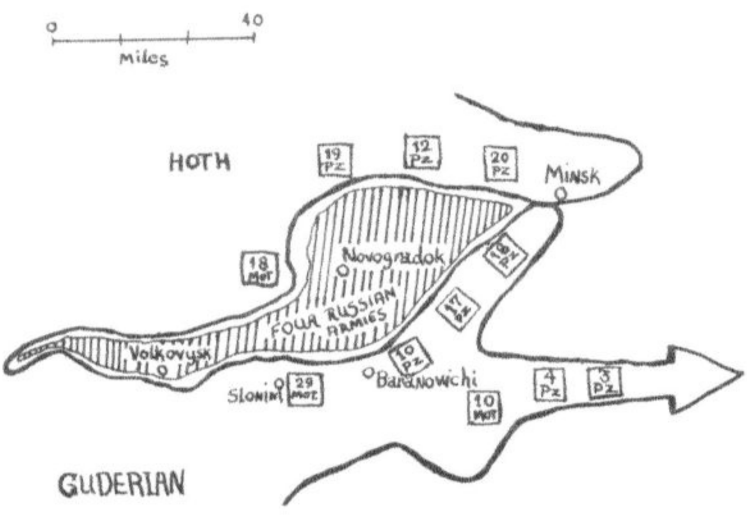
XXIV PANZER KORPS: 3rd Panzer Division, 4th Panzer Division, and 10th Motorized Division.

XII PANZER KORPS: 1st Cavalry Division and Division "Gross Deutschland".

At 0315 hours on 22 June 1941, the drums of war sounded along the Eastern Front. German artillery lit the pre-dawn sky and, after twenty-five minutes of initial preparation, the Stukas went in to add to the "Hell-fire". The effect on the Russian frontier troops was devastating! General Guderian was not as lucky as some of his colleagues - there were no bridges in his area. Instead he had been given the "diving tanks" originally intended for Operation Sea Lion - the invasion of England. These were Pzkw III's which had been equipped with a snorkel arrangement and hermetically sealed to make them water tight. They were also furnished with special exhaust pipes with spring loaded lids to prevent water from entering.

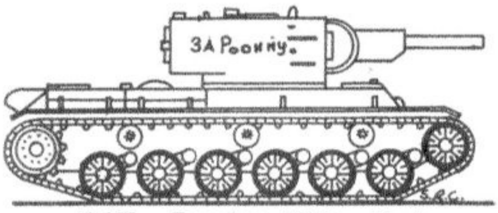
The lead tanks of 18th Panzer Division rumbled into the waters of the River Bug at 0445 - the exhaust pipes marking their progress along the river bottom. Soon, the diving Pzkw III's emerged from the water on the opposite bank. Muzzel covers popped off and several Soviet armored cars brewed up. The remaining Russians hurried off, and the tanks with the white "G" had gained their first bridgehead.

The Minsk Pocket



The 18th Panzer continued its forward rush and by 1025 hours the Lesna River was reached and a bridge captured in tact. This same day the first tank battle of the campaign was fought at Pruzhany. "Fast Hans" Guderian pushed on and the XXIV Panzer Korps reached Bildeiki while XXVI Panzer Korps seized Sluzk and far in the rear the battle for the citadel of Brest-Litovsk raged on - and would until June 30th. By the 24th, Panzer Group Guderian had driven 14 miles to the north-northwest of the city of Brest-Litovsk, and had captured the town of Slonim. Here the first Russian counterattack seriously threatened the left flank of the German penetration and the 29th (Motorized) Division had to be detached to deal with them. Nevertheless the advance continued despite a fresh Soviet thrust, including tank units, on the 25th. This too was held off by the Panzer Grenadiers of the 29th Motorized and during the next few days Guderian's Panzers captured Stolpce and Barranovicze, finally reaching the outskirts of Minsk on June 27th.

While Guderian's advance rolled forward, the Northern arm of the great pincer - Panzer Group Hoth - annihilated a Soviet Armored Division. The Russian 4th Armored Division under the command of Major General Potaturchev had been ordered to stop the German Invaders in the area around Grodno. Unfortunately the 4th had over 30 per cent of its vehicles under repair and unfit for action and the rest were committed to the attack piecemeal. When it was all over the score was 355 Soviet tanks and 30 armored cars destroyed or captured (including 21 T-34/76's and 10 KV's).


ЗА Родину.
S.R.C.

KV II — Russian 53ton Tank

Confusion was the order of the day for the Red Army: orders were sent to units that no longer existed to hold strong points that were already far behind the German lines. Guderian's Panzer Group had driven over 100 miles into Russian territory and completed the encirclement of four Soviet Armies.

But the Russian Colossus was not dead yet! On July 3rd the Moscow 1st Motorized Rifle Division, under Major General Kreyzer, moved against the flank of 18th Panzer Division; and for the first time Guderian's tankers were faced with the dreaded new Soviet weapons - the T-34/76 and KV II tanks. The first T-34 rumbled into sight followed by a KV II and several BT-7's. The only German tanks available to oppose the Soviet attack were the 18th Panzer's Pzkw. III's, armed with the 5cm gun which hitherto enjoyed had all but complete supremacy on the battlefield. But now the 5cm was unable to penetrate the armor of the Russian giants. Quickly three Pzkw. IV's were called into the frey with their 7.5cm L24 guns. The T-34 was finally silenced by shooting off the track and machine gunning the crew when they tried to escape. Yet the enormous KV II was still with several Pzkw. III's. Eleven direct hits were scored by the Germans but not one was able to penetrate the thick hide of the KV. Then suddenly for no apparent reason the Russian crew abandoned their tracked fortress and the situation was saved. But the days of unchallenged German armored superiority on the battlefield had ended.

Sobered by the appearance of the heavy Soviet armor, the Panzer Groups continued to hammer away at the trapped Russian Armies and on July 8th the Minsk Pocket was finally eliminated - and with it 43 Soviet divisions. The total booty amounted to 2,585 tanks and 1,400 guns destroyed or captured, and 287,704 prisoners of war; but it was still a long way to Moscow.

PRODUCT REVIEW:

"Armor in Action" Prints

by S. Gifford

After reviewing Bruce Weigle's "Portfolio #1: Armor in Action - France 1940", a collection of 4 charcoal drawings, this critic is first impressed with the detail and dynamic composition, and the exacting use of white space as well as the filled areas of the page. The excellent use of line, background, and shading adds the feeling of solidity and motion to what would otherwise be good but static armored vehicle renderings, but in no way interferes or detracts from detail and definition.

To say only that these portfolios are "suitable for framing" would be doing Weigle a great injustice, since these prints are a must for any wargamers "GHQ" wall (right next to that vulgar "Playboy" foldout). The lack of color allows the viewer to fully appreciate the artist's work and not just the colors. The one small disadvantage is that these drawings deserve a much larger format, to fully show the amount of time, care and patience involved.

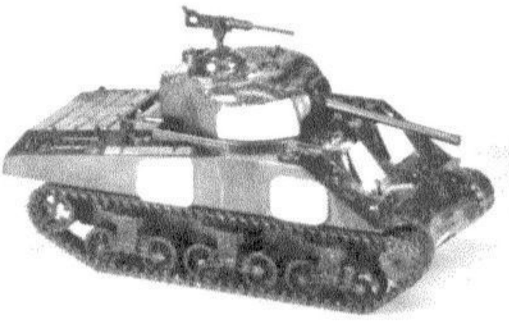
As for those who enjoy AFV prints, but find that most offer an excellent rendition of a specific vehicle and nothing more, they will find Bruce's addition of realistic foliage landscaping surrounding the vehicles refreshing compared to the usual few odd pieces of grass found growing under the tracks of other artists works.

All in all, I enjoy Mr. Weigle's work, his style, his skill in his medium, his knowledge of his chosen subjects, and his presentations, and I'm sure you will be proud to add these prints to your collection. They are available from Lamo-Lem Battle Prints, P. O. Box 445, Dept. G2, Del Mar, California 92014. Price $2.50 per set.

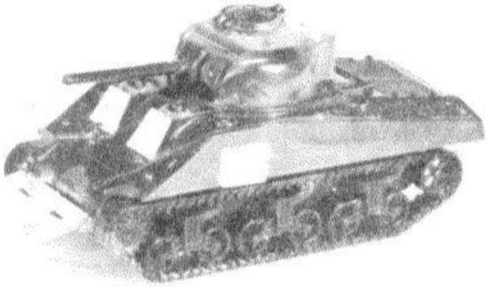
The Sherman In Detail

by Jim Garrison

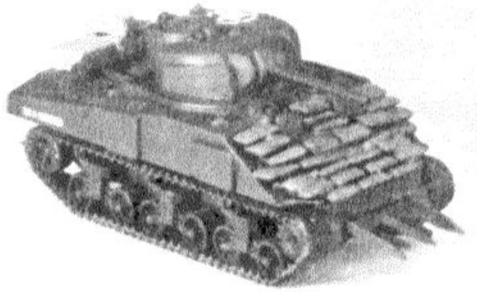
Nothing warms my heart more than seeing a column of Sherman tanks fight its way through a mass of German armor; but even on these magnificent occassions something is always wrong. The HO scale models of those Shermans don't seem much like the tanks that romped across Europe and brought the Nazi war machine to its knees. A few details added to Roco's #202 model will remedy that situation and at the same time improve the appearance of your wargaming collection.



The Shermans that landed at Normandy had all the improvements that two years of combat experience could provide, yet the standard Roco model shows little of these modifications. The past fighting had shown a need for increased vision for the tank commander, and the later Shermans were fitted with an armored cupola with six vision blocks - giving a 360 degree field of view - which replaced the rotating hatch of the original design. Accompanying this change, a new mounting for the .50 cal. machine gun was placed in the center of the turret roof adjacent to the new cupola. This new hatch is a simple modification as the M-40 155mm SP gun (Roco #104) provides two of the required cupolas - along with the HVSS suspension which will be discussed in a later conversion. With an X-acto knife cut off the hatch from the Sherman turret and replace it with the cupola from the M-40 (see the top photo).



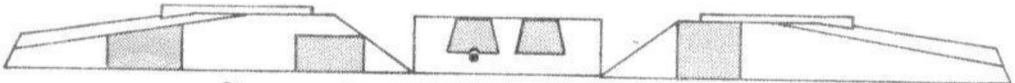
Early in the Sherman's fighting career it was realized that it would be advantagous to increase the armor thickness an inch or two. However, it was clear that this would not be very practical due to the increase in total weight. The solution was to put extra armor only on the places when a penetration would cause a kill. Applique armor was thus fitted as shown in the diagram below. The side plates should be 0.255inch by 0.335inch rectangles of sheet plastic; however, the shape of the plates covering the driver's compartment and the turret side are too difficult to describe andyou will have to depend on the diagram and photos to get their shapes right.



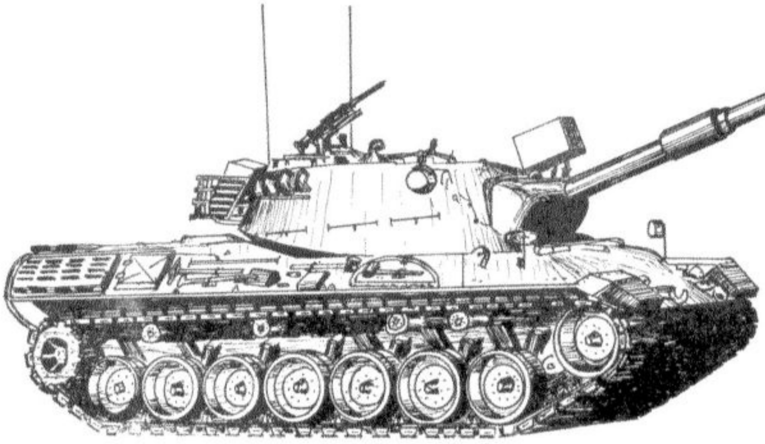
Another form of extra protection were sand bags. These were designed to defeat the dreaded Panzerfaust since one of those shaped charge weapons, striking a sand bag, would explode without penetrating the skin of the Sherman. (See the photo at left) These are modeled from the small "Chickletts" gum and are set on a piece of plastic placed between the front track covers.

Photographs "B" and "C" show the Cullin hedgerow device fitted. There were many forms of this particular item of equipment, but the easiest to construct is that made by placing a section of "L" beam between the bulges in the front of the differential housing. Add to this five pieces of pointed "L" beam, three glued to the top of the first beam and two to the underside. The "L" beams may be made from either Plastruc or Vollmer beams; however, the Volmer beams have the advantage of being made from styrene plastic and may be attached with any plastic glue. They are available from most model railroad shops.

Now sit back, relax, and look at all those beautiful Shermans!!!



Sherman Applique Armor *Scale: NONE*



ARMOR G:2

Current Data on the World's Armored Forces.

by J.C. Johns

West Germany: A modified M-113 Armored Personnel carrier, mounting the "Tampella" 120mm mortar, will replace the 81mm and 120mm mortars now in use in the Bundeswehr infantry battalion heavy weapons companies. These M-113's maintain their swim capability, despite the increase in weight, by reducing the standard ammunition load each carries. The "Tampella" may be dismounted and fired from the ground by the use of base plate carried in the vehicle.

Syria: The Syrian army experienced severe maintenance problems with its Soviet-built T-54 tanks during the September 1970 clash with Jordan. They were only able to employ 170 of the 250 tanks sent across the border due to mechanical difficulties.

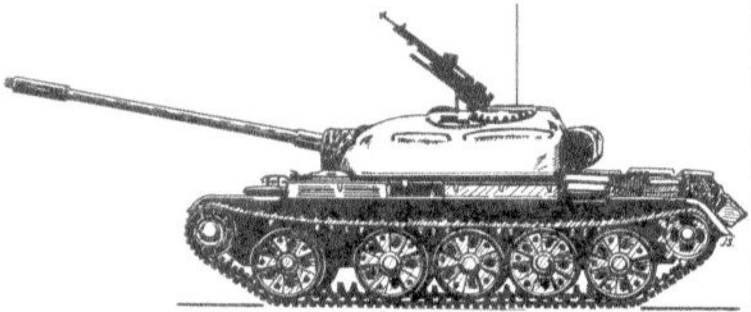
Switzerland: The Swiss have developed a new Armored Personnel Carrier - the "Tornado". Weighing 20 tons, the vehicle carries a crew of 12, and is powered by a 430 horsepower multi-fuel engine. For armament the "Tornado" mounts a 20mm gun, mountings for two machine guns, which can be operated from inside the vehicle, and four anti-tank missiles. In addition it has four ball-mount firing ports from which the occupants may fire while within the vehicle. The "Tornado" is intended as a possible replacement for the U.S. produced M-113 now in service.

Italy: The Italian government has announced plans to purchase 800 Leopard main battle tanks from West Germany.

Israel: The Israelis are presently rearming their M-48A3 tanks with new 105mm guns in place of their original 90mm weapons. This should simplify the supply problem in Armored units as it will allow the M-48's to use the same ammunition as the Centurions presently in service.

Pakistan: Pakistan has taken delivery of between 40 and 50 Soviet tanks (T-54 or T-55's), and when added to the 250 other Soviet-built machines previously acquired from Red China, these give Pakistan a formidable armored force. Pakistan has received no military aid from the United States since 1965; however she has obtained a number of American tanks from Turkey.

United Arab Republic: The UAR has improved its amphibious capability with the acquisition of 100 PT-76 tanks from Czechoslovakia. The PT 76 weighs 14.6 tons and is completely at home in water. It has been in Soviet servicesince 1955, and is also used by many Eastern Bloc countries including North Viet Nam.



Soviet T55

Japan: The Japanese Defense Agency has developed the prototypes of a new main battle tank For the Ground Self Defense Force, as a replacement for the Type-61 medium tank now in service. The new design will carry a modern 105mm gun with advanced fire control system, is powered by a light weight air cooled diesel engine, and is supported by a Hydropneumatic spring suspension. It is also fitted with night vision equipment and an ABC warfare package.

Argentina: The Argentine military has received 24 new 155mm Self Propelled Howitzers from France and these are now in service.

Sweden's
Tank "S"

by Carl Weaver

The S-tank represents a courageous and revolutionary new idea in tank design. Perhaps, since the Swedes haven't fought a war with anyone for over a hundred years, they feel that they can take a chance with a new design; but in any case, the tank is worthy of study.

The most radical departure from normal is the lack of turret. This in itself is not unusual since numerous assault guns lacked turrets, however all these had guns mounted within their hulls capable of traverse - usually not more than a few degrees to each side, but still enough so that the vehicle only had to be pointed in the direction of the target. However, the gun on the S-tank is firmly attached to the hull; and, the later versions even have a fixed support welded to the front plate which holds the gun tube in position. The gun still recoils in the usual manner, as the tube is seated in the support and not attached to it; but this is the only motion allowed the tube. Traverse of forward and the other going in reverse. Even fine laying of the gun is done in this manner, and both the tank commander and the gunner/driver have a full set of controls - a remarkable improvement over any other tank. Elevation of the gun is accomplished by raising or lowering the vehicles front or rear roadwheels. As one wheel rises and the other lowers the body of the tank, and hence the gun, is elevated or depressed in an arc from - 10 degrees to 12 degrees. Loading is done automatically for either High Explosive or Armor Piercing rounds carried in the magazine but the third type of round carried, smoke, must be loaded by hand loaded by means of a hand crank operated by the wireless operator. To load and fire, the gunner selects the type of round desired (HE or AP) pushes a button, insures that the selector switch is set to fire the main gun, waits for the "loaded" light to come on, and pulls the trigger. The gun recoils and the spent shell is ejected from the rear of the tank automatically. The 50 round magazine is also loaded from outside the vehicle so the crew never has to manhandle the ammunition within the tank's interior.

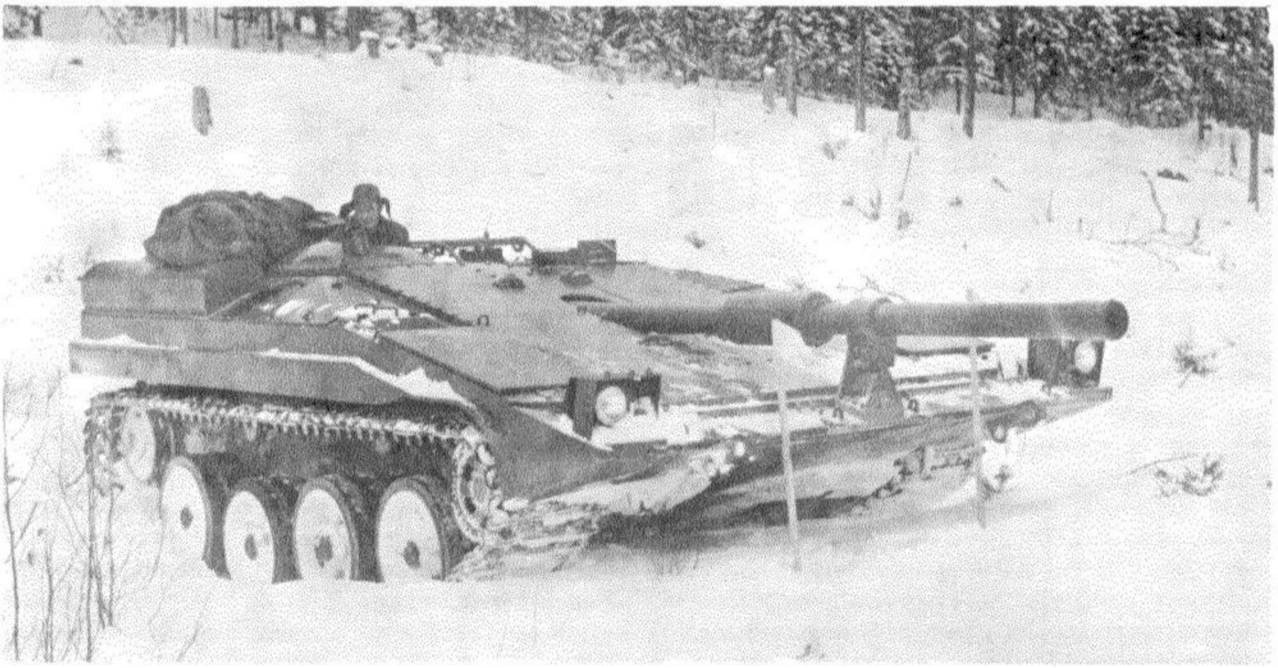
There is one question that comes to mind regarding this idea of traversing the entire tank to align the gun on target. What happens if there is an object directly to the side of the tank? In this case the vehicle shifts its center of movement to the blocked track and pivots on that point. And if there are objects close alongside both sides? The only answer to that one is "Sorry 'bout that."

One of the chief advantages of the S-tank, besides its unusually low profile, is the ease with which it can be handled. As mentioned above both the driver/gunner and the commander are provided with firing controls. These also include a complete set of driving controls as this is necessary to aim the gun. Additionally, since the wireless operator faces to the rear of the vehicle in his battle position, he to is provided with a set of controls for driving in reverse. When confronted with a water obstacle of over 1.5 meters in depth the vehicle is fitted with a collapsable screen, which enables it to "swim".

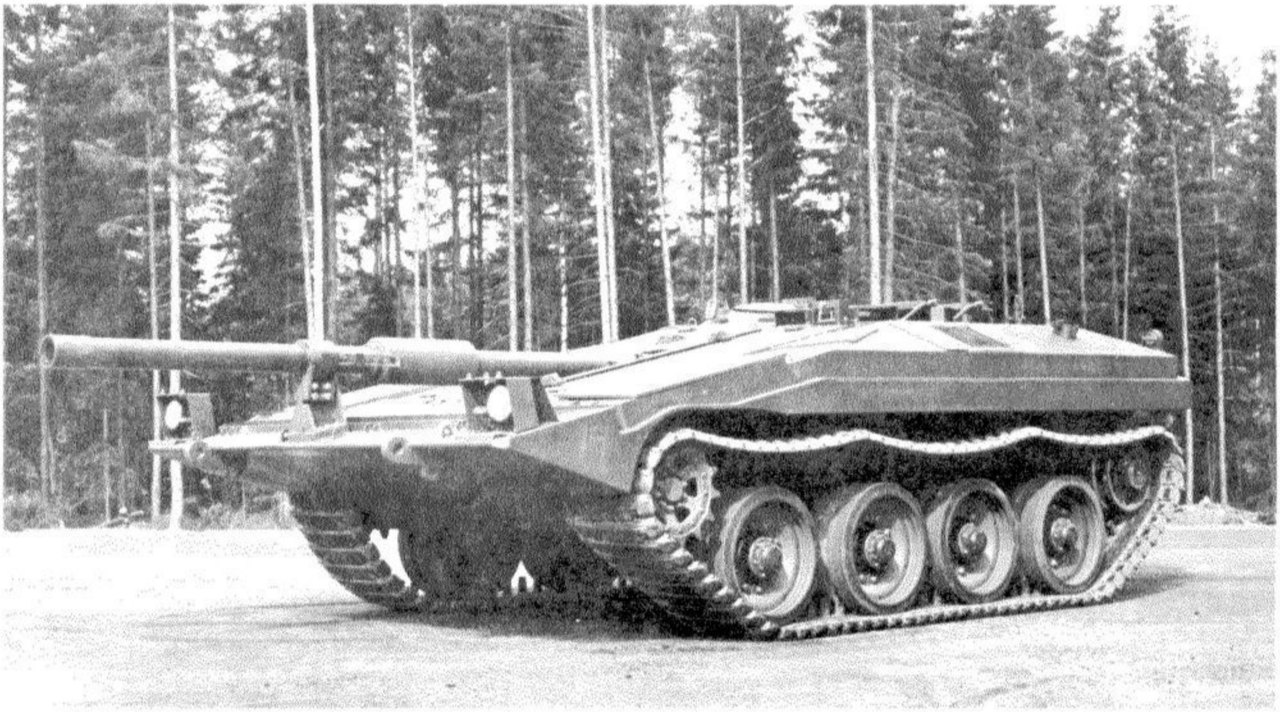
We would like to express our thanks to the good people of Aktiebolaget Bofors for providing the photographs and drawings shown on the following pages.

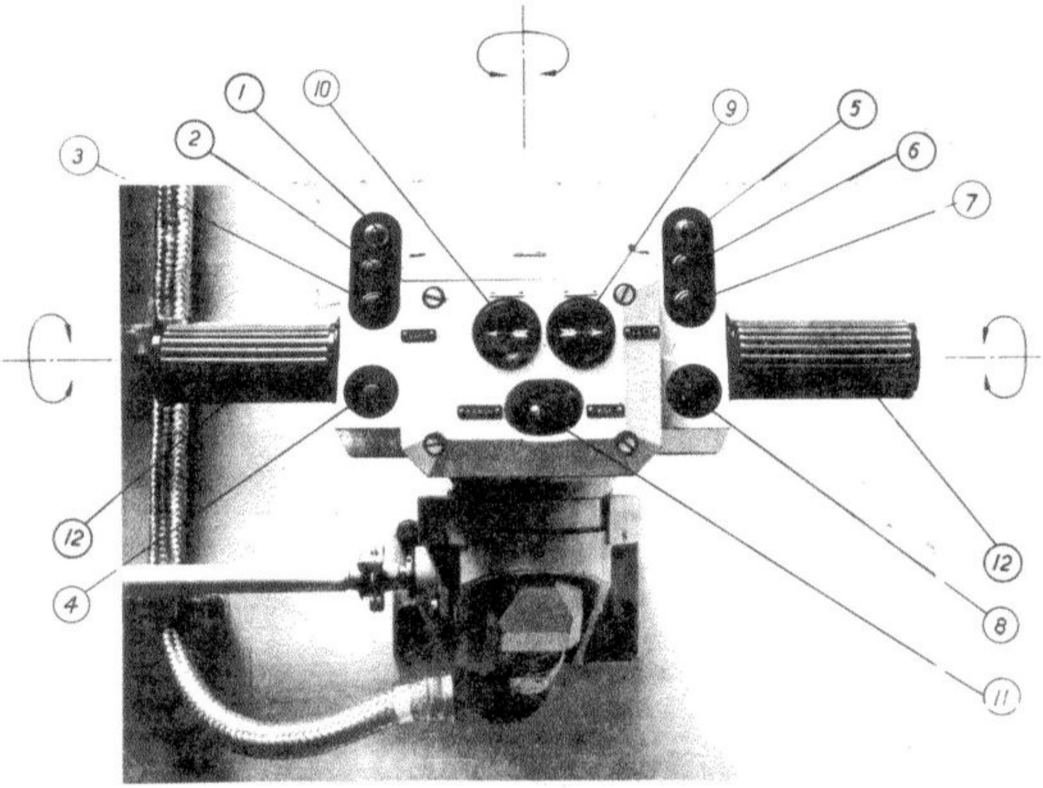
Technical Data

Crew	3 men: Commander, Driver/Gunner, and Wireless Operator
Combat Weight	37,000 Kilograms
Length (with gun and equipment)	8.8 meters
Length (hull only)	6.9 meters
Height (at observation dome)	1.9 meters
Width	3.3 meters
Ground Clearance	500 millimeters
Track Width	670 millimeters
Ground Pressure	0.9 kg per square cm



Climbing Ability	30 degree slope
Fording depth (without swimming equipment)	1.5 meters
Armament	
Main Gun	105 mm
Barrel Length	62 calibers (6.51 m)
Recoil Length	0.27 meters
Magazine Capacity	50 rounds
Elevation	Minus 10 to plus 12°
Traverse	None
Seondary Weapons	2 Machine Guns





Steering and Firing control head assembly.
The entire unit turns latterally to traverse or steer the tank.

1. Signal lamp, H.E. Shell (loaded)
2. "Push to Transmit" button for radio.
3. Button to load HE shell.
4. Trigger (HE shell).
5. Signal lamp, A.P. Projectile (loaded)
6. Firing, ranging gun
7. Button to load AP shell.
8. Trigger (AP shell).
9. Locking knob, stearing gear
10. Safety knob
11. Weapon selector
12. Twisting these handles elevates or depresses the gun.

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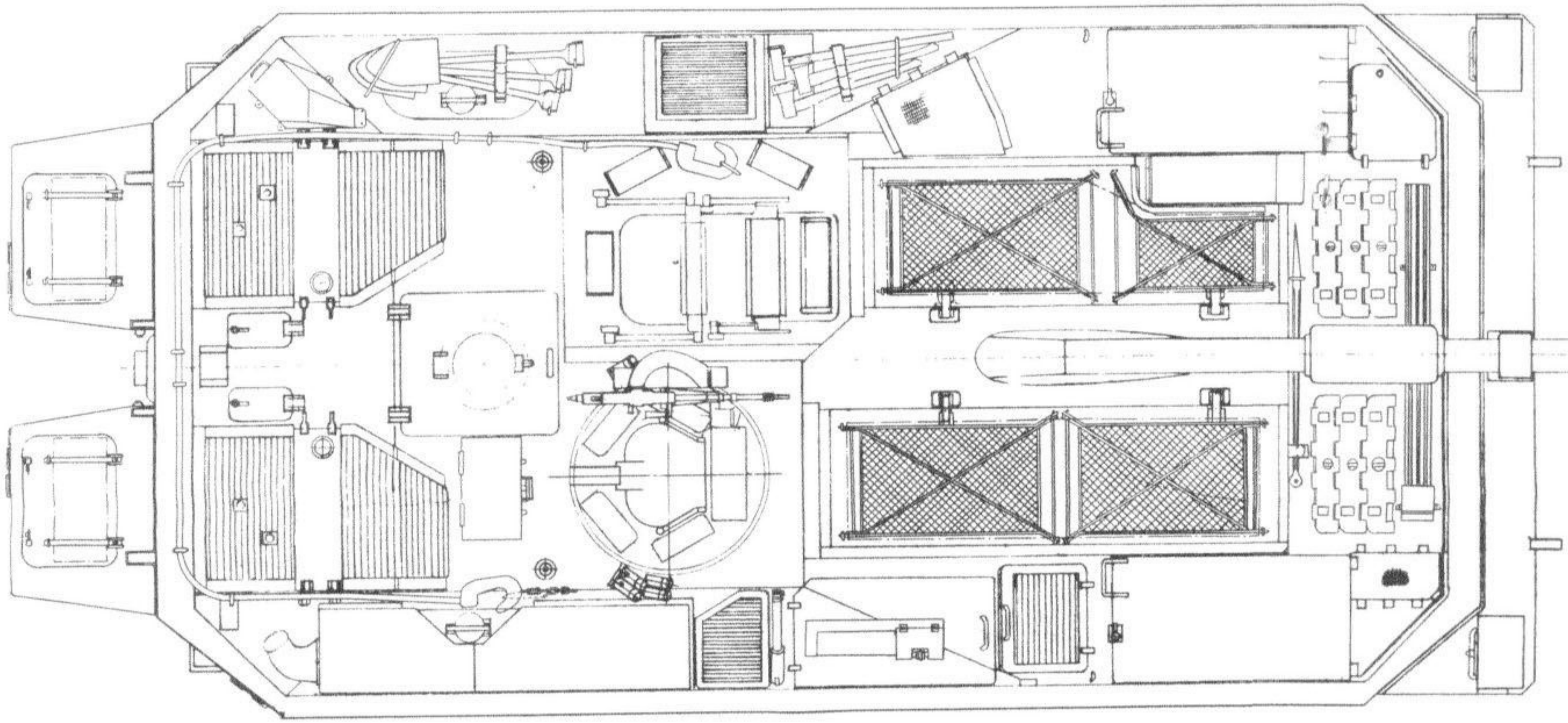
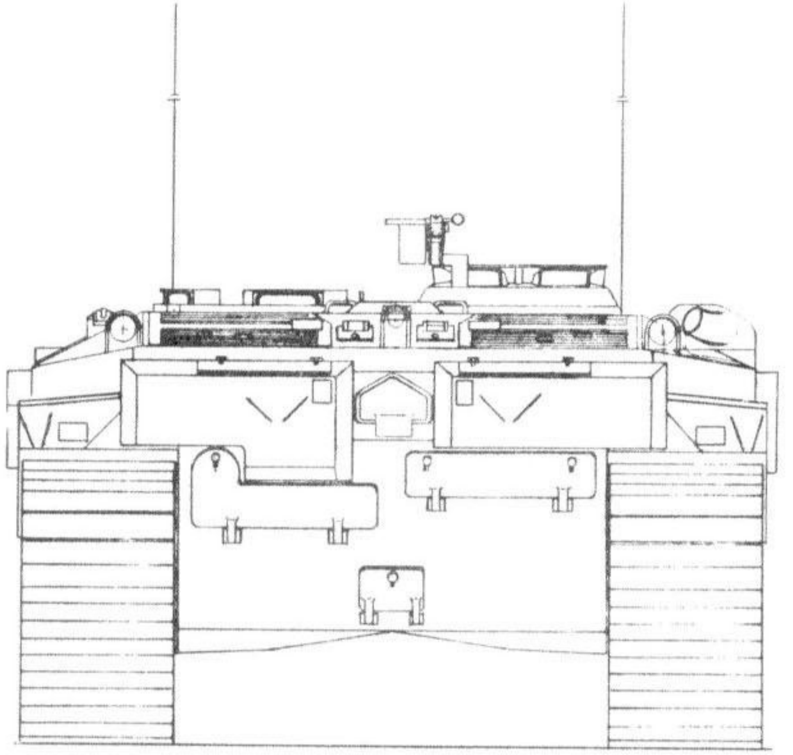
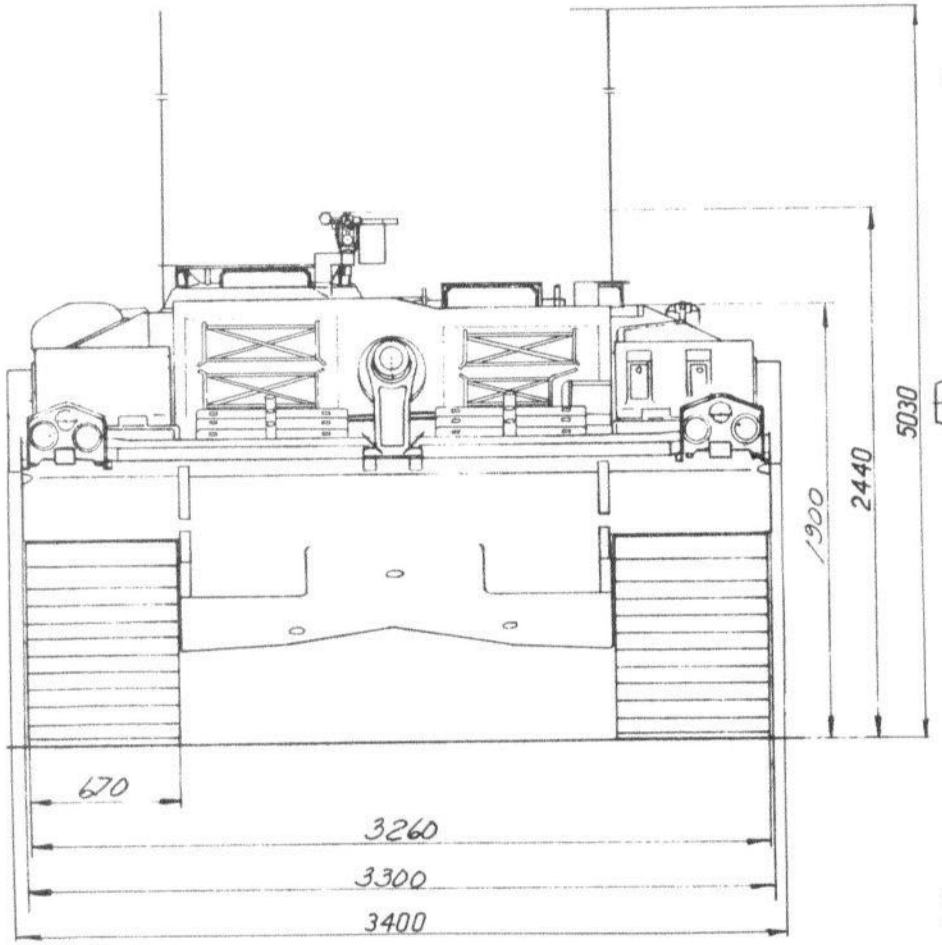
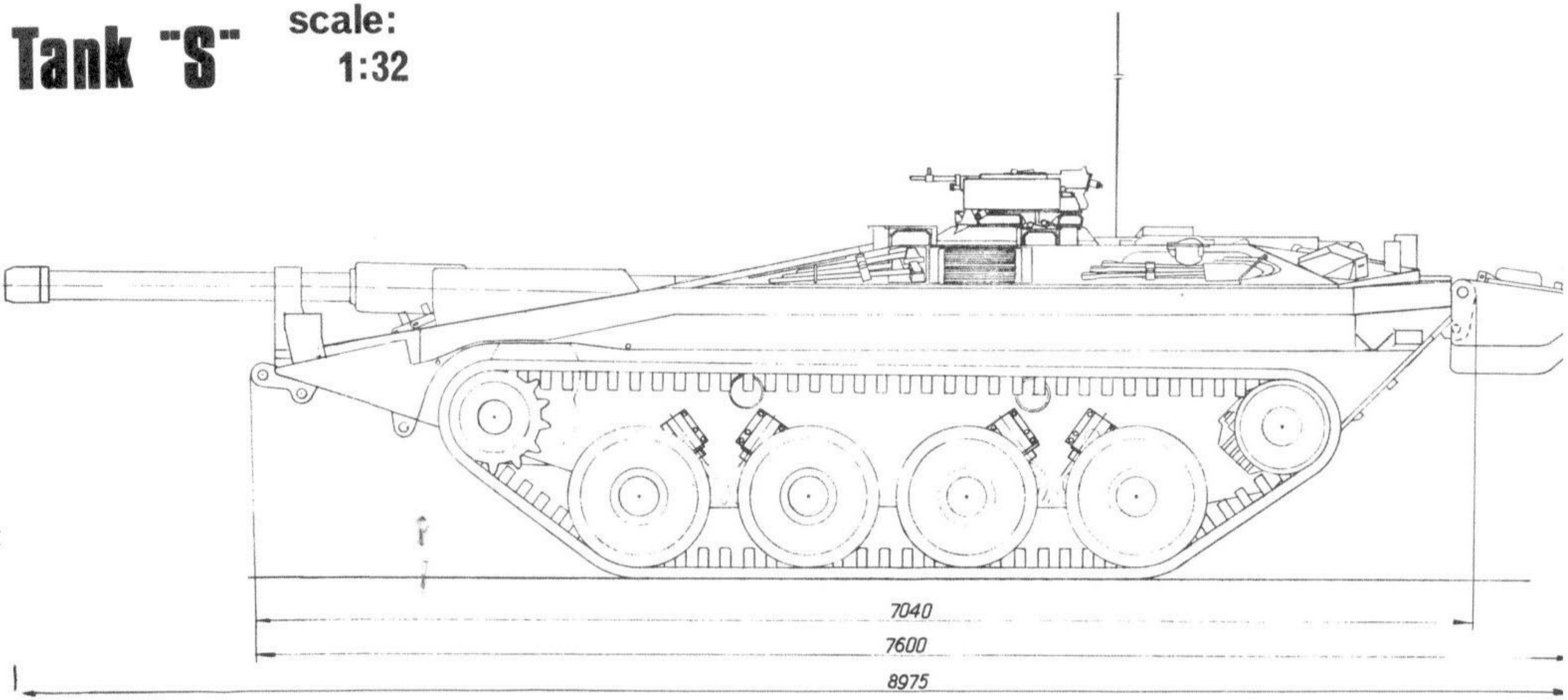




Tank "S"

scale:
1:32





Seek, Strike and Destroy

Part II. The Weapons

by Lonnie Gill

TANK DESTROYER FORCE
A black, red, and white Cougar crunching a black track, all in an orange circle edged in black.

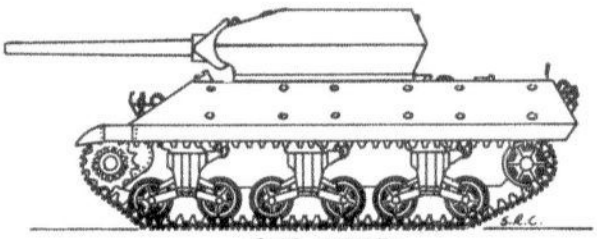
In September, 1944, a platoon of the 704th Tank Destroyer Battalion was moving north near Arracourt, France. The lieutenant, leading in his jeep, suddenly spotted the muzzle of a German tank in the trees lining the narrow lane. As he gave the dispersal signal, the tank destroyers moved swiftly into action. The lead M-18 destroyed the German tank with its first shot. The flames disclosed other tanks behind it. A second shot destroyed another Panzer, but the M-18 was itself hit by a third Mark IV. This tank was then destroyed by the second M-18. The rest of the platoon was also busy and soon five German tanks were blazing. In a later clash that day, nine more German tanks were destroyed—the last by the one remaining operational tank destroyer.

Tank Destroyer actions were not always so dramatic, of course, but in every action success depended on sound tactics and potent weapons. In Part I (Vol. II, #9) we traced the development of Tank Destroyer tactics; let us now turn to the development of the weapons.

When the Tank Destroyer Force was created, it inherited the latest in mobile anti-tank guns—a 37mm with a large protective shield mounted on the back of a three-quarter-ton truck. While this was similar to the "two-pounder on portee" then being used by the British in North Africa, the Tank Destroyer Command realized that the design was completely unsatisfactory. The mount had little cross-country mobility, almost no crew protection; and, most importantly, could not penetrate the German tanks it would meet. Since it would take time to develop a proper vehicle, the Tank Destroyer Board and the Ordnance Department searched for a stop gap.

The M-2/M-3 halftrack, which had entered production in early 1941, offered greater mobility and more crew protection. Meanwhile, the 75mm M-1897 A gun (American version of the W.W.I French 75) offered greater penetration and was readily available. The halftrack and gun were soon mated and by October, 1941, the T-12 had been standardized as the M-3 Gun Motor Carriage. It was rushed into production, giving the Tank Destroyer Force a sturdy robust vehicle. By late 1942, the M-3 was the standard Tank Destroyer equipment as the battalions were all converted to the heavy self-propelled type. As related in Part I, the M-3 proved to be unsuitable in combat, but continued to be used in action until replaced by the M-10, in 1943. When turned over to the British, it proved popular as a support weapon in Italy.

While the T-12 was being developed, several other projects were also in progress. These revolved around the 3" AA gun developed in 1926. AA guns were the progenitors of many AT guns since they already had many of the same characteristics: high muzzle velocity, rapid rate of fire, and light weight. The 3" AA gun could fire a shell weighing 12.8 lbs. at 2800 ft./sec. The first try at using this gun was the T-1; the gun and protective shield were mounted on a Cleveland high-speed tractor. The crew stood behind the vehicle and manned the gun from the ground. A pilot model was ready by November, 1941. It was standardized as the M-5 Gun Motor Carriage, but none were built as more sophisticated designs were available by then.



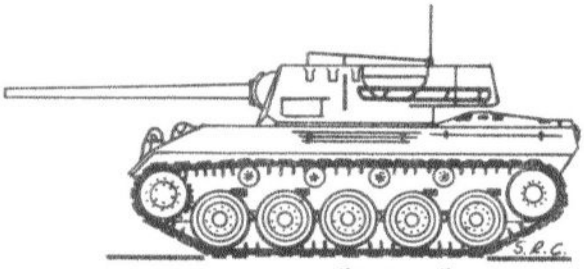
GMC-T35E1

A more promising attempt was made using the chassis of the new M-3 medium tank. The turret, sponson, and overhead were removed and the gun mounted in the open space left, firing over the glacis plate. The T-24 proved to be too high, so a second prototype, the T-40, was built with the gun mounted in the hull, similar to the M-7 Priest. (Incidentally, the pictures of these prototypes have their captions reversed in British and American Tanks by Chamberlain and Ellis.)

Tests proved successful and the T-40 was standardized as the M-9. It was planned to build fifty before the M-10 was available, using surplus AA guns. When someone actually checked however, only twenty-eight guns could be located and the project was dropped in August, 1942.

The next step, the M-10, proved to be the first really successful Tank Destroyer. An open-topped version of the turret developed for the T-1 heavy tank was mounted on the hull of one of the new M4A2 (diesel) tanks. The T-35 looked most promising; the Tank Destroyer Board was impressed with the idea of a fully rotating turret as it fit in with the "offensive" doctrine then in vogue. However, the Board felt the vehicle was too high and that the new Sherman Tank had poorly sloped armor. A new prototype, the T-35 El, was built with the low, well-sloped hull which later became symbolic of U.S. Tank Destroyers. (Here again, the captions are reversed in British and American Tanks.) Ultimately, the circular turret was dropped in favor of a 5-sided welded type which was easier to produce. This turret went through several stages of development with various types of counter-weights (weighing 2500 lbs.). Eventually the rear of the turret was simplified--which also gave more room to the crew. Later, an attempt to utilize a modified T-23 tank turret; the T-72, was not adopted. The vehicle was standardized as the M-10 in June, 1942; and it became the standard Tank Destroyer until 1944. It was soon necessary to use M4A3 chassis (powered by the Ford GAA gasoline engine) to maintain production schedule--this version was known as the M-10 Al. Nearly every Tank Destroyer (almost 7000 produced) battalion was equipped with the M-10 at one time or another.

The 3" gun mounted in the M-10 had gone through similar development. The barrel was mated with a modified breech mechanism from the 105mm howitzer. The result, standardized as the M-5 AT gun, fired the M62 APC (armor piercing capped) shell weighing 15.43 lbs. with a muzzle velocity of 2800 ft. per second. It could penetrate 4.5" of armor at 20° slope at 500 yds. and 3.3" at 2000 yds. It thus was capable of defeating the Mark IV's and Tiger I's met in 1943 and early 1944. The same gun, fitted with a modified 105mm howitzer carriage (Ml or M6), became the standard equipment for the towed battalions. The gun was popular with its crews in both towed and self-propelled versions and famous for its accuracy.



M-18 "Hellcat"

While a detailed look at the M-10 was featured in Vol. II, #3, a few comments are in order. The M-10 was an advanced vehicle by 1942 standards. Its armor was just as well sloped as the famous Panther Tank--which it preceded by almost a year! Indeed, from certain angles, the resemblance was quite striking. While the side armor was thin, the slope enabled M-10's to have frontal armor nearly equivalent to the Sherman Tank. Although only 2" thick, the frontal hull had a vertical equivalent of 3 1/4" compared with an equivalent of 4" for the M-4; and the turret mantlets' 2 1/2" was equivalent to 4 1/2" while the Sherman's turret front was equivalent to 3 3/4". The Tank Destroyer Board's insistence led to a vehicle considerably more advanced and better able to deal with the opposition than the Sherman accepted by the Armored Force.

While the M-10 was being produced, a parallel project was developing a fast Tank Destroyer. This vehicle would rely on speed and mobility for its protection and use hit-and-run tactics to destroy its foes. The development of this vehicle was traced in Vol. II, #5. When the project culminated in the T-70 (standardized at the M-18), the Ordnance Department and Tank Destroyer Board were justifiably proud. While its armor was quite thin (1/2"), it was the fastest tracked AFV of World War II with a top speed of over 50 mph.

It was armed with the new Ml 76mm gun. Actually 3" (76.2mm), it had been developed in 1942 as a replacement for the 75 used in the M-4. Designed to fit into the early Sherman turret, it fired the 3" M62 APC shell at 2600 ft/sec. While much lighter, its penetration was almost as good as the 3" gun (3 1/2" at 1000 yds., 30° slope). The 76 was also mounted in the later Sherman tanks. By the time it was in use (1944), however, the opposition was using the heavily armored Panthers and Tiger II's which it could not penetrate except on the sides or at dangerously short ranges. Since the slightly superior 3" gun was similarly outclassed, the Tank Destroyer Board turned to another AA gun, the 90mm.

As early as 1942, Ordnance had experimented with the 90mm. The muzzle velocity was increased to 2800 ft/sec.; and, when standardized as the 90mm M-3AT gun, it could penetrate

Seek, Strike and Destroy (Continued from Page 19)

120mm (30° slope) at 1000 yards with the M82 APC shell, making it the only U.S. gun which could penetrate the frontal armor of the heavy German tanks at reasonable ranges. It was test fired in a M-10 turret in 1943. It was decided to develop a new turret with internal counterweight, better ammo storage, and better balistics as the M-10 turret was unsuitable. The new turret was mounted on the M-10 hull and the whole thing called the T-71. The T-71 proved most satisfactory, but Army Ground Forces felt the larger gun was unnecessary. AGF resisted the upgunning of the Sherman and Pershing tanks, with tragic consequences, but the Tank Destroyer Force was in a better position as AFG's objections were based on the theory that fighting enemy armor should be left to Tank Destroyer's. Eventually, a limited procurement order for 500 T-71 GMC's was placed.

Normandy changed a lot of opinions; the M-36 was standardized in June, 1944. The problem then became how to convert M-10's fast enough. Eventually, even M4A3 hulls were used--a curious reversion to the T-35! The M-36 entered fighting in October and November of 1944 and was an immediate success. It was popular with crews and feared by the Germans as the only vehicle which would knock out the later Panzers and negate the advantages of such heavy armor. In the Ardennes, for example, time and again, a few M-36's would have a decisive impact.

The use of HVAP (High velocity armor piercing) ammunition--subject of a future article--enabled all three Tank Destroyers (m-10, M18 and M36) to successfully engage enemy armor right up to the end of W.W.II. Through continued development of weapons and ammunition, the Tank Destroyer Force was consistantly equipped with weapons able to hold their own against enemy armor--a claim the Armored Force cannot make.

Incidentally, the following corrections should be noted in Part I: The Tank Destroyer Board was set up in 1941 and General McNair was head of Army Ground Forces, while General Marshall was the Army's Chief of Staff.

PRODUCT REVIEW: Superior 5cm PAK 38 by William Rupprecht

Following the excellent 88mm gun manufactured by Superior Models is a well detailed Anti-Tank (PAK) Gun. The model, in lead, is readily assembled using Klends Epoxy and patience. Some flash must be removed but the amount is very slight. Three wheels (two standard and one castor with apparatus), four shells, an open ammo box with lid, and a closed ammo canister are included with the basic gun parts.

The barrel of the 5cm gun and muzzle brake are well proportioned and authentic. However, the muzzle brake anterior end is "cast over" and therefore must be drilled out to improve appearance. The various bolts, rivets, and smaller items are cast right into the parts. The gun breech mechanism, found cast on the gun proper, is a work of art in itself with the intricate details built on the one part.

Although the gun proper is not moveable once it is positioned, the split trails of the gun can be spread open (as in a firing position) or locked together by joining the two trails and attaching the castor wheel (as if ready to be transported). Consisting of over twenty parts, the gun assembled proves to be a formidable looking weapon in its own scale.

The kit, 1:32 scale, is well worth the money.

THE
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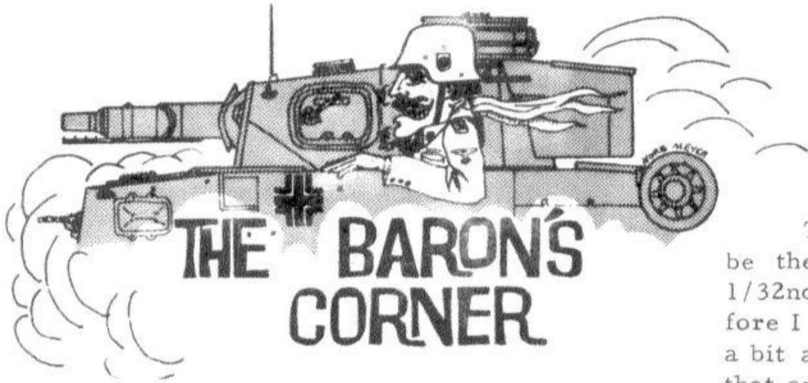
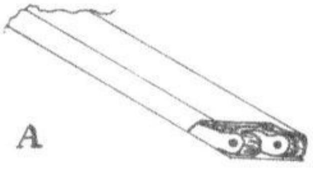


Hinges That Work

By Norb Meyer

The subject of this month's corner will be the construction of working hinges for 1/32nd and 1/35th scale vehicle models. Before I start, however, I should caution you a bit as to their use. If you do make hinges that operate you may want to play with them too much; and if they break, you will have a repair job on your hands. Once the technique for making them has been perfected, though, you will find that they are well worth the effort.

Well, on to the method. The first part that must be manufactured is the double portion of the hinge. First cut a piece of .090 sheet plastic so that it is about the width of the scale hinge. This will give you a long narrow piece of plastic from which several hinges may be cut, this insuring each of them being the same size. The next step is to file the hinge sections to shape. (See drawing "A" for a sample.) At this time, though, I have found it best to drill out the holes for the metal pin. This is not easy to do for the drilled portion must be exactly straight in order for the hinge to work; but, if you goof at this stage, it is still relatively simple to go back and start over again. Once the holes have been drilled you can finish the filing. You will probably find that the X-acto triangular file, an X-acto knife file, and a half-round file will be needed for all the intricate curves and corners found on tank hinges.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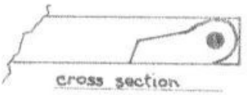
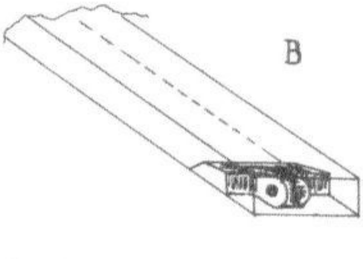

cross section

Once the double section has been finished, the next step is to go on to the portion that fits into it. (See drawing "B".) Now cut an isosceles triangle from a sheet of .030 Plastruct and drill a hole through the center of the base of the triangle. (When drilling the hole be sure to use the same drill you used on the first section earlier.) When this has been finished, round the edges of the base of the triangle, using the triangular file. Make sure that once inserted into the double piece that the triangle will turn or pivot in place with the holes lining up.


B

There is but one more step to finishing these little beauties, and that is the insertion of a piece of copper (preferred) wire. Once this has been inserted, crimp the outside edges and carefully fold the crimped portion back. If you have taken your time, you will not only have a hinge that looks good but it will also work. One mere tip before closing and that is, if you wish to be sure the hinge will work after it is glued down to the vehicle, remove the center portion; or, better yet, wait until both sections have been glued on their respective pieces before insertion of the wire pin! Well, there you have working hinges. I found that it takes some work to get the technique, but once mastered it is worth the effort.

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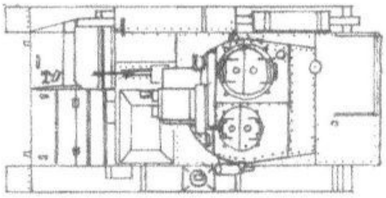
Scratch-built:

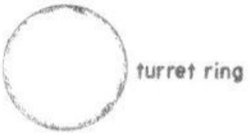
British Mark VI light tank in 1:76 scale

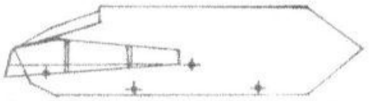
by Bruce Weigle

The Vickers light tank Mark VIB was a cute little deathtrap which graced the British Army's armoured units from 1938 to 1941. They chased Italians around the Western Desert in 1940, and served with the B. E. F. in France, where they distinguished themselves mainly by the ease with which they could be knocked out. However, a nice model it does make, with a lot of detail in its two inch length; and, if nothing else, would make your 1/76 Tiger appear all the more impressive when placed next to it.

This was my first scratch-built, and I relied mainly on trial-and-error for many of my fittings, which works satisfactorily if you're in no particular hurry. So with that bit of kindly advice, the plans, the exploded-view drawing, and photo-references, you're almost ready to go, but first a word from our sponsor. Two publications which were of great value for the photographic coverage of the Mk VI were Ballentine's Tank Force paperback and AFV Profile No. 5 (Light Tanks Mark I-VI). The former is No. 15 of the "Illustrated History of WW II" series, by Kenneth Macksey, and worth the $1 price. The latter, by Maj. Gen. N.C. Duncan, sells for about the same, and includes color plates of three versions of the Mk VI. Also necessary are two Airfix Bren Gun Carrier Kits, from which you can pilfer the suspension, and at least two sizes of plastic sheet - '20 thou' and '60 thou'.



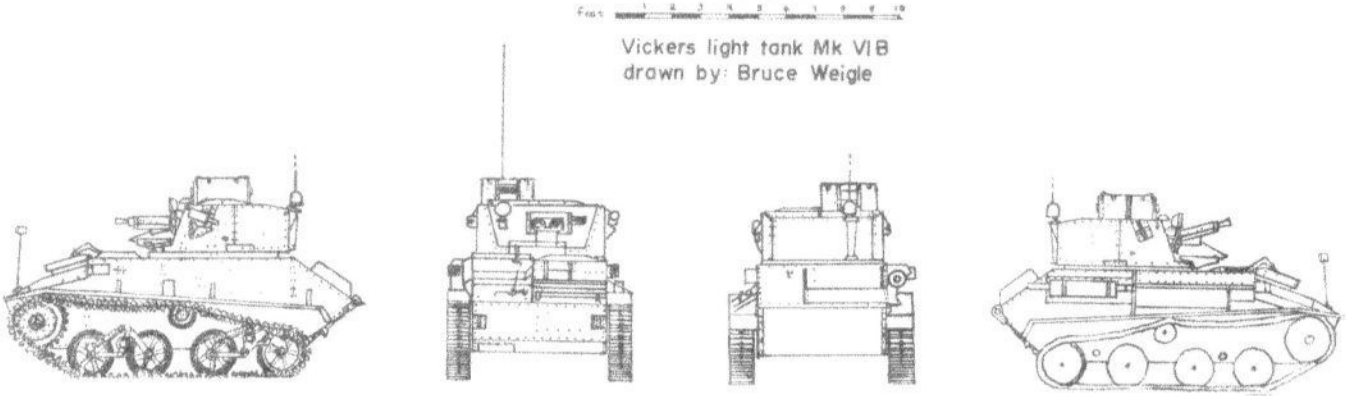




basic hull shape, left side, with sandshield and suspension placement

Scale: 1/76

Vickers light tank Mk VIB
drawn by: Bruce Weigle



The turret production is about as easy as it looks. The sides are cut (use sharp scissors), curved, and cemented in place around the turret disk and held in place while drying. Then all sorts of bulkheads, buttresses and the like are cemented in to insure that the thing would stay in place.) Unless you're planning on having a crew member in the turret, there is of course no need to bore hatch openings in the roof. The bulge in the left side of the turret was carved from putty ("Green Magic" automotive putty) and coated, as were all puttied surfaces, with a Polyurethane plastic. The gun mantel was carved from a Renwal Nuke-sub's torpedo, and the commander's cupola is a lengthened bomb stabilizer from Monogram's "Mosquito" kit. The searchlight is sprue with one end hollowed out slightly, painted chrome silver, and filled with Elmer's glue (which dries clear).

The searchlight brace in which the light rests was attached to the light with Elmer's glue so, when dry, it would not appear to be touching the light itself.

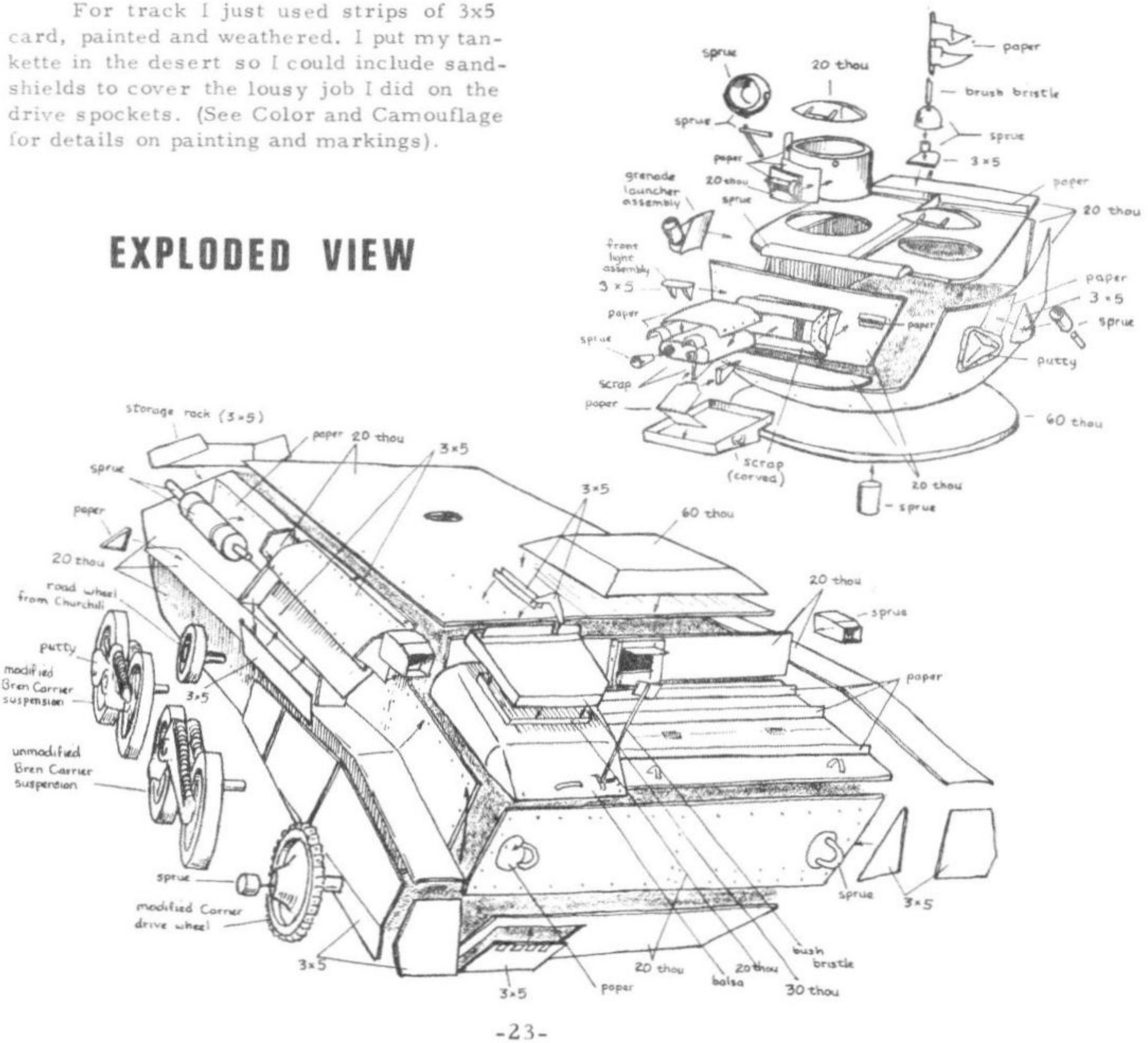
Lastly, the conical radio aerial housing at the turret's rear was furnished by that same torpedo that gave us the gun mantlet.

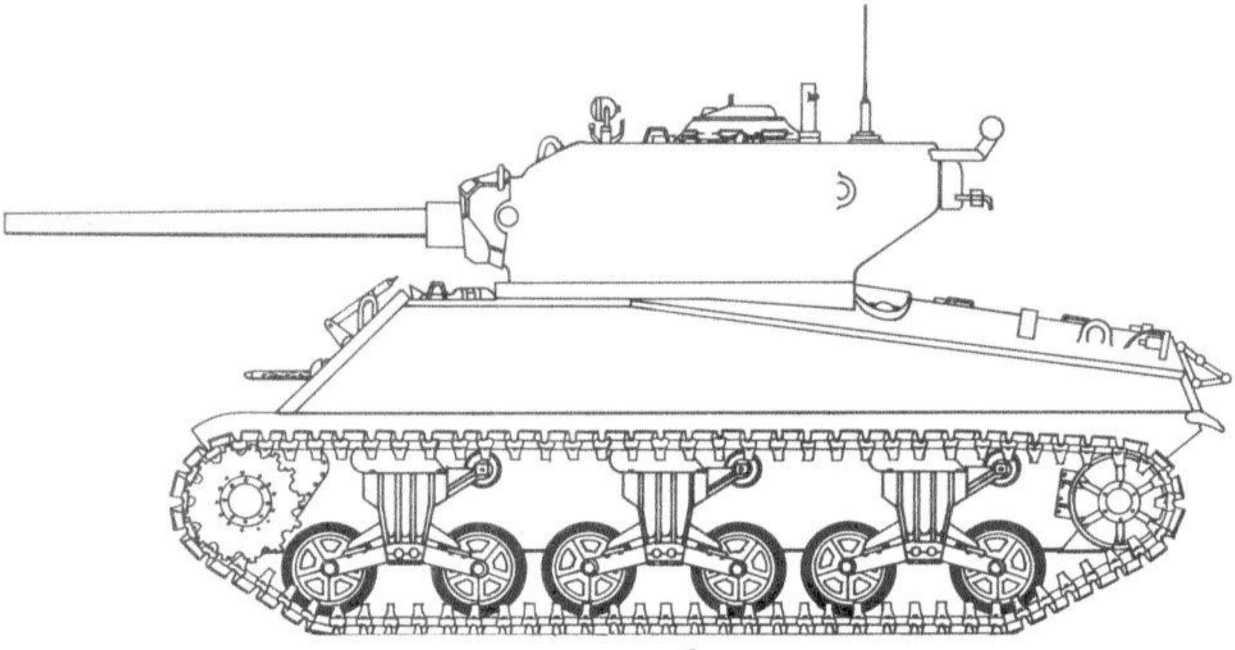
One of the more difficult points is the hull engine cover, which I carved from balsa. The balsa was then 'plugged' with 'Green Magic', sanded down, and covered with polyurethane plastic to give it the same 'hard' look as the rest of the plastic. All paper, 3x5 card and wood was attached with good old Elmer's glue; the rest of the model was done with the usual modelling cement.

The suspension of the front wheel mountings is identical to that of the front mountings of the Bren Carrier, but its a little tricky in the area of the rear ones. This requires that you cut apart and reglue two 2-wheel sets from the Bren Carrier (after having liberated them from their tracks) and building up the proper mounting out of putty - after carefully studying the reference photos. Or you could just use the forward Bren Carrier suspension in all four locations, and ignore the slight differences - but that would be cheating! With a bit of carving, the Bren Carrier's drive spocket can be made to resemble that of the Mk VI, and an Airfix Churchill's roadwheel makes a fine return roller.

For track I just used strips of 3x5 card, painted and weathered. I put my tankette in the desert so I could include sandshields to cover the lousy job I did on the drive spockets. (See Color and Camouflage for details on painting and markings).

EXPLODED VIEW





M4A3E2 'Jumbo'

NOTES: * Command Tanks only; ** Does not include spring compression; *** Computed with T-48 tracks and "Duckbill" end connectors; **** Differs with previously published material.

TECHNICAL DATA: M4A3E2 (Assault) SHERMAN

CREW: 5, Commander, Gunner, Driver, Loader, and Bow Gunner

WEIGHT:
- Empty... 77,532 lbs.
- Loaded... 84,000 lbs.***
- Crew... 875 lbs.
- Stowage... 4,380 lbs.
- Fuel... 1,042 lbs.
- Machine Guns... 171 lbs.

DIMENSIONS:
- Length Over-all... 247 in.
- Height Over-all... 134 7/8 in. **
- Tread (Center to centerof tracks) 83 in.
- Ground Clearance... 17 1/8 in.**
- Width Over-all... 111 1/2 in.
- Turret Ring Diameter (I. D.) 69 in.

PERFORMANCE:
- Maximum Speed... 22 MPH
- Maximum Grade... 60%
- Trench Crossing Ability... 7.5 ft.
- Maximum Vertical Wall... 24 in.
- Fording Depth... 36 in.
- Diameter of Turning Circle... 36 in.
- Cruising Range... 100 miles

COMMUNICATIONS:
- Radio
- SCR 506* Right Front Sponson
- SCR 508, or 528 or 538 In rear of Turret
- Interphone (Part of Radio) 5 Stations
- Flag Set... M238
- Panel Set... AP-50A
- Flares... 3 each, M17, M18, M19, M21
- Projector, Ground Signal... M4
- Spotlight... (ORD, Part No. 078079)

POWER TRAIN:

Engine:
- Type... V-8 Gas. Liquid Cooled
- Make... Ford Motor Co.
- Model... GAA
- Number of Cylinders... 8
- Displacement... 1100 Cu. in.
- Horse Power... 450 @ 2600 RPM
- Max. Goverened Speed... 2800 RPM
- Torque... 950 ft. lbs. @ 2200 RPM
- Fuel... 80 Octane Gasoline
- Clutch... 16 3/4" Two Plate Dry

Transmission:
- Type... Synchromesh
- No. of speeds... 5 Forward, 1 Reverse

TRACK:
- Types... T 48 or T 51
- (With Duckbill End Connedtors on Outside)
- Width... 20 1/8 in.
- Ground Pressure... 14.1 PSI
- Shoes per vehicle... 158

SUSPENSION:
- Type... Verticle volute spring
- Number of wheels... 12 per vehicle

ARMAMENT:

Weapon:	Elev/Depr.	Trav:
75mm Gun M-3	25° / 10°	360°
.50 cal. MG	Flexible Mounting	
2 in. mortar M-3	Fixed at 30°	None
.30 cal. MG (hull)	24°/ 10°	48°
.30 cal. MG (coax.)	25°/ 10°	360°
.45 cal. SMG (5)	Internal Stowage	

AMMUNITION STOWAGE:
- 75mm.... 104 rounds ****
- 2 in. (smoke) ... 18 rounds
- .50 cal.... 600 rounds
- .45 cal.... 900 rounds
- .30 cal.... 6,250 rounds
- Hand Grenades;
  - Fragmentation Mk. II... 4
  - Smoke, colored, M-16... 4
  - Smoke, white phosphorous,... 4

ARMOR:

Hull;	Thickness	Angle
Front, upper	4 in.	47°
Front, lower	5.5 to 4.5 in.	56°
Sides, upper	3 in.	vert.
Sides, lower	1.5 in.	vert.
Rear	1.5 in.	22°
Top	.75 in.	horz.
Floor	1.5 in	horz.

Above all Homogeneous Welded Plates

Turret:	
Mantlet	7 in. (rolled)
Front	6 in. ****
Sides	6 in.
Rear	6 in. ****
Top	1 in. (rolled)

Above Cast Homogeneous except as noted

CAPACITIES:
- Fuel (total)... 168 gallons
- Cooling System ... 56 quarts
- Engine Oil ... 32 quarts
- Transmission & Differential Fluid.. 164qts

FIRE CONTROL SYSTEM
- Direct;
  - Telescope M-71g (90-207)
  - Telescope M-38A2
- Indirect:
  - Elevation Quadrant M-9
  - Azimuth Indicator M-20
- Turret Traverse: Hydraulic

Photographs Courtesy of the R. P. Hunnicutt Collection

The German Armored Reconnaissance (Type C) of 1944

by Jim Steuard

Probably no other type of small unit in the German Army existed in such variety as Reconnaissance Companies, of both the Panzer and Panzer-Grenadier-Divisionen! This variation was due in part to the widely different types of armored and non-armored vehicles that were available. Additionally, the Wehrmacht considered battle field reconnaissance so important that different units were tailored to better perform different types of armored reconnaissance in differing terrain. German tacticians declared that the Armored Reconnaissance Battalion (or Panzer-Aufklärungs-Abteilung) should be equipped as a combined arms task force (or Kampfgruppe) that could also initiate limited attacks and defend a captured objective. Armored Reconnaissance Companies of the Wehrmacht were initially equipped with Sd. Kfz. 222 and Sd. Kfz. 232 armored cars, since those were very suitable to conduct "road" reconnaissance so necessary to armored warfare in France 1940. After 1941, the limited cross-country mobility of these armored cars reduced their usefullness. While some units continued to use the Sd. Kfz. 222, others began to convert to the light armored halftrack (or Sd. Kfz. 250 series) which offered far better cross-country ability. The Panzer-Aufklärungs-Kompanie (Typ C) was equipped with the Sd. Kfz. 250 (or standard "infantry" personnel variant of the halftrack) for general armored reconnaissance duties.

Even though reconnaissance battalions differed, from division to division, almost every battalion had at least one of the Type C armored halftrack companies. In a future article, we can cover the different battalion organizations. Thus, the Panzer-Aufklärungs-Kompanie (Type C) was an important component of these battalions, often serving as mounted infantry. In the later 1945 organization, the Type C company was continued, with only equipment changes (from the Sd. Kfz. 250 type to the Sd. Kfz. 251 type). As can be seen from the chart, the company consisted of a company headquarters and three platoons. The company strength consisted of 3 officers, 37 non-commissioned officers, and 117 enlisted men. The first, second, and third platoons were standard 3 squad reconnaissance platoons equipped with seven of the 1-ton light armored halftracks; organized with two vehicles per squad (or section) and one vehicle in the Platoon Headquarters. The second and third platoons were commanded by non-commissioned officers instead of officers, in line with the lower number of officers per unit in the Wehrmacht. The fourth platoon was the so-called "heavy" (schwere) "zug" equipped with heavy weapons to support reconnaissance operations of the company as shown in the chart. The versions of the Sd. Kfz. 250 that carried heavy weapons (the Sd. Kfz. 250/7 with 8cm mortar and the Sd. Kfz. 250/8 with 7.5cm Stuk. 40L/24 cannon) were very crowded, with little crew space and a very limited amount of ammunition. Still, they were the only available vehicle that could keep up with the reconnaissance platoons.

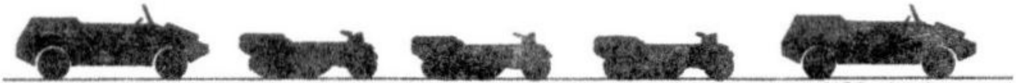
The Headquarters Section of the company consisted of two parts: administration and operations. The administrative personnel typically used two of the small Volkswagen Kübelwagens (or equivalent) for transportation. Three motorcycles (or Kettenkräder on the Eastern Front) were also provided for messenger communications, and route reconnaissance. This group handled the normal administration of the unit; maintenance work and supplies were not provided through this headquarters, but were provided by the battalion supply and headquarters companies. The command and operations group of the reconnaissance company used two of the 1-ton Sd.Kfz.250/3 communications halftracks for protection and transportation. This group, under immediate control of the company commander, was equipped to coordinate and supervise the unit's reconnaissance missions, generally by radio.

The Reconnaissance Platoons were organized for relatively independent operation, even though they could (and did) often operate with other units as part of a Kampfgruppe. The basic element of each platoon was the two vehicle squads, equipped with Sd. Kfz. 250/1 armored halftracks. Normally, one of the vehicles could cover operations of the second vehicle, using the vehicular-mounted MG34 or MG42. Each vehicle could communicate to the Platoon headquarters, or the Weapons Platoon (for fire support when required) by radio, and the squad could also operate dismounted as an infantry squad, armed with the usual high number of automatic weapons. Thus, the squads and platoons were very flexible, in concept, and in operation. Fire support for operations was readily available from either the mortars or the assault guns of the Heavy Platoon, and the reconnaissance company could well handle itself in a "fire-fight".

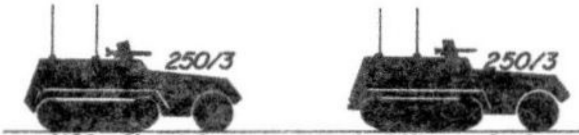
German reconnaissance units were among the best equipped and most needed units in the armored divisions; trained not only for reconnaissance missions, but also designed to fight as highly mobile armored units, with attached tanks, armored infantry and engineers. Often the Panzer-Aufklärungs-Abteilung became the divisions mobile reserve and counter-attack force—the division commander's personal "battle group", to be employed at the decisive moment.

PANZER—AUFKLÄRUNGS—KOMPANIE (TYP C)

HEADQUARTERS SECTION

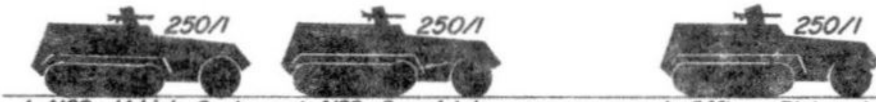


1 NCO Supply	1 EM Driver	1 EM Driver	1 EM Driver	1 NCO 1st Sgt
1 NCO Clerk				1 NCO Clerk
1 EM Driver				1 EM Driver

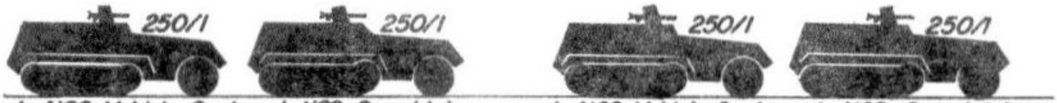


250/3	250/3
1 NCO Signal Sgt.	1 Officer Co. Cmdr.
1 NCO Radioman	1 NCO Radioman
1 EM Radioman	1 EM Radioman
1 EM Messenger	1 EM Messenger
1 EM Driver	1 EM Driver

I. PLATOON



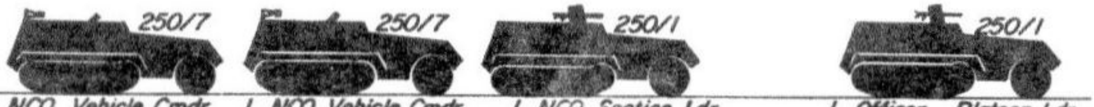
250/1	250/1	250/1
1 NCO Vehicle Cmdr.	1 NCO Squad Ldr.	1 Officer Platoon Ldr.
2 EM Riflemen	2 EM Riflemen	1 NCO Platoon Sgt.
1 EM Radioman	1 EM Radioman	1 EM Rifleman
1 EM Driver	1 EM Driver	1 EM Radioman
		1 EM Driver



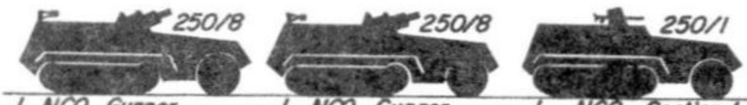
250/1	250/1	250/1	250/1
1 NCO Vehicle Cmdr.	1 NCO Squad Ldr.	1 NCO Vehicle Cmdr.	1 NCO Squad Ldr.
2 EM Riflemen	2 EM Riflemen	2 EM Riflemen	2 EM Riflemen
1 EM Radioman	1 EM Radioman	1 EM Radioman	1 EM Radioman
1 EM Driver	1 EM Driver	1 EM Driver	1 EM Driver

II. & III. PLATOONS — Same as I. Platoon, except NCOs are Platoon Leaders

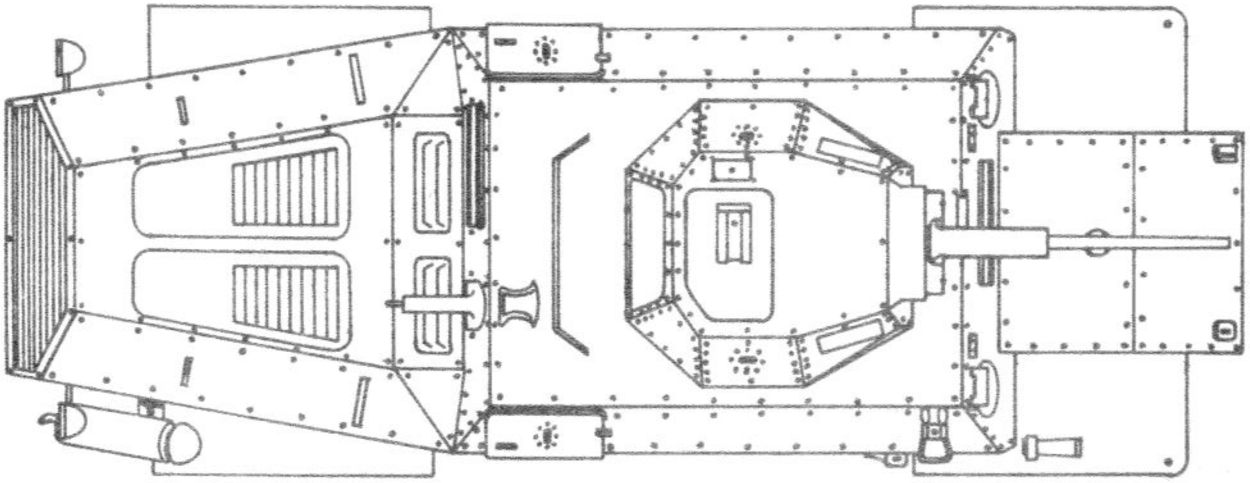
IV. (HEAVY) PLATOON

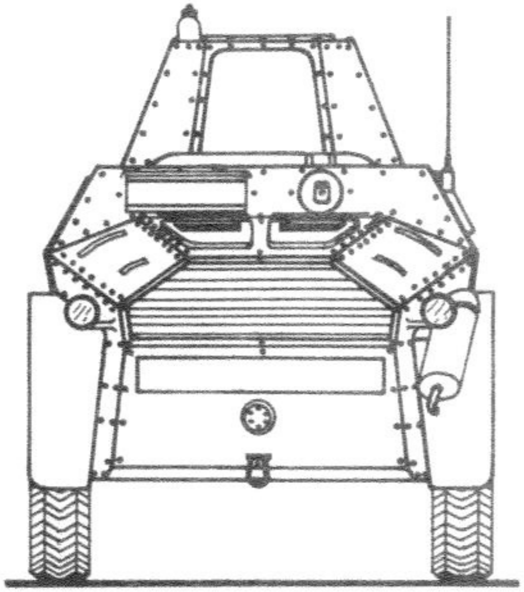


250/7	250/7	250/1	250/1
1 NCO Vehicle Cmdr.	1 NCO Vehicle Cmdr.	1 NCO Section Ldr.	1 Officer Platoon Ldr.
2 EM Gun Crew	2 EM Gun Crew	2 EM Ammo Handlers	1 NCO Platoon Sgt.
1 EM Radioman	1 EM Radioman	1 EM Radioman	1 EM Rifleman
1 EM Driver	1 EM Driver	1 EM Driver	1 EM Radioman
			1 EM Driver



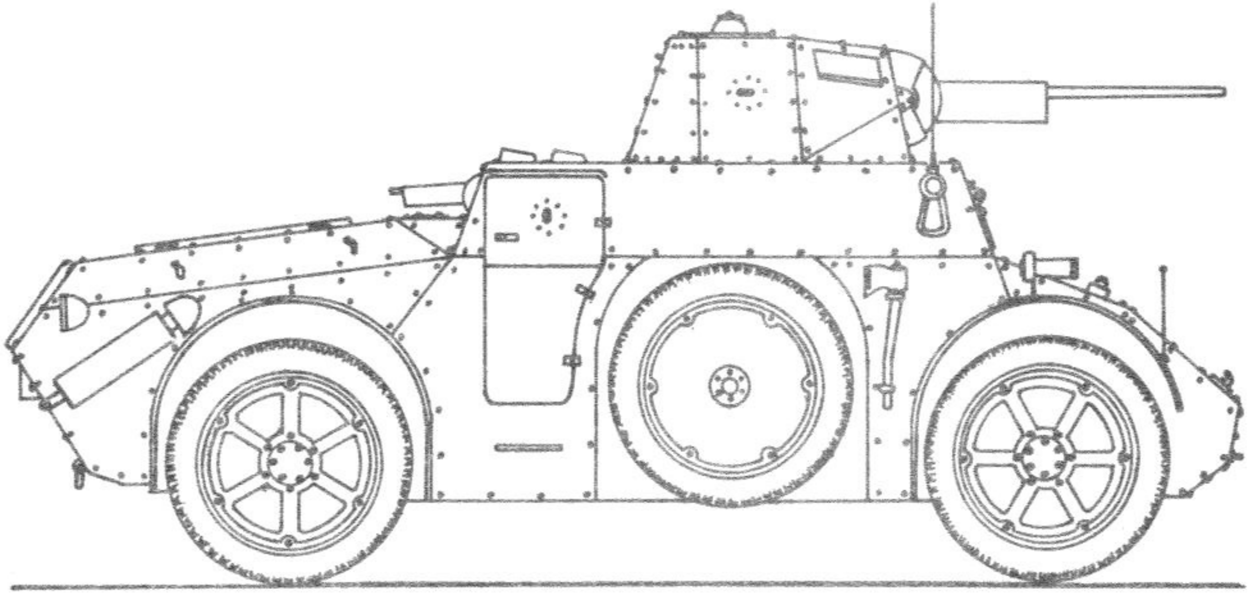
250/8	250/8	250/1
1 NCO Gunner	1 NCO Gunner	1 NCO Section Ldr.
1 EM Gun Crew	1 EM Gun Crew	2 EM Ammo Handler
1 EM Radioman	1 EM Radioman	1 EM Radioman
1 EM Driver	1 EM Driver	1 EM Driver

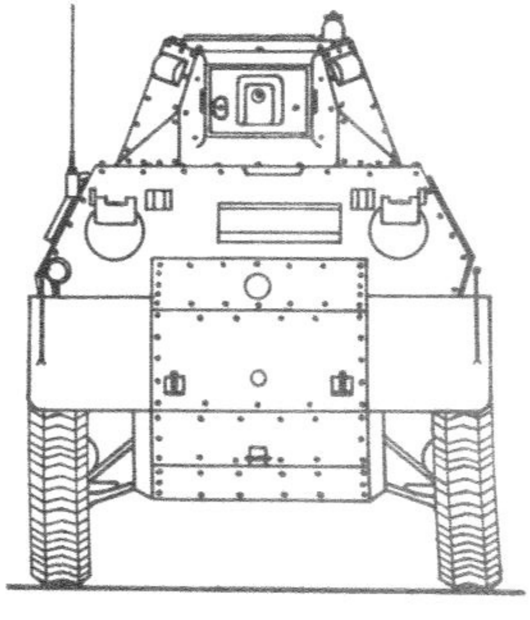




AUTOBLINDA AB41

Drawn By: S.R. Cobb Scale: 1:32





The Modeler's Page

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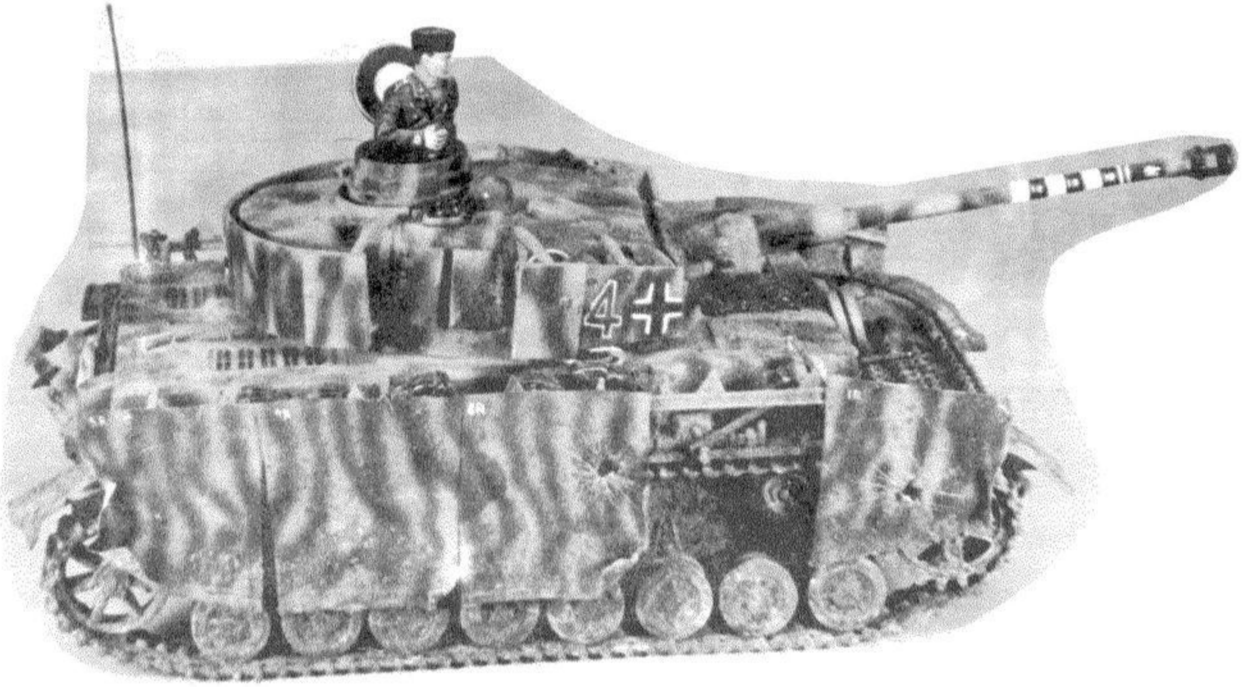
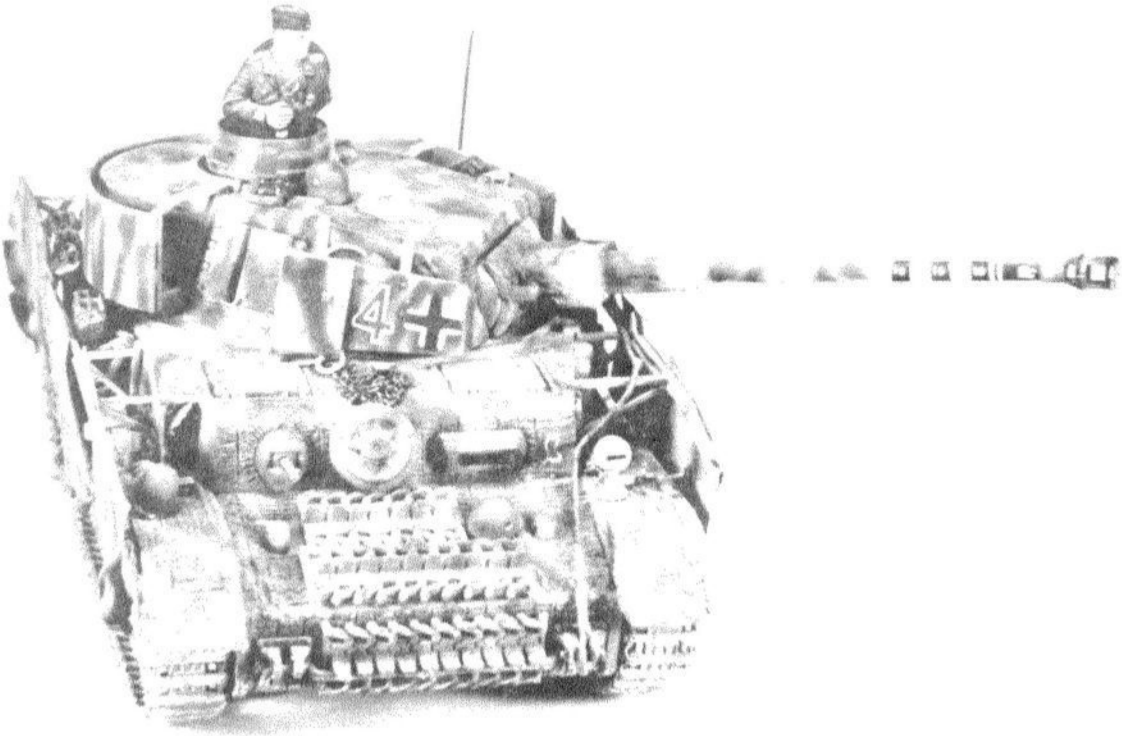


An excellant example of the possibilities of the new large scale armor kits is this Pzkw. IV H by Bruce McRae of Santa Monica, California. These photos, however, do not do it justice as they cannot capture the outstanding color finish of the model. (Photography by Carl Weaver.)



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